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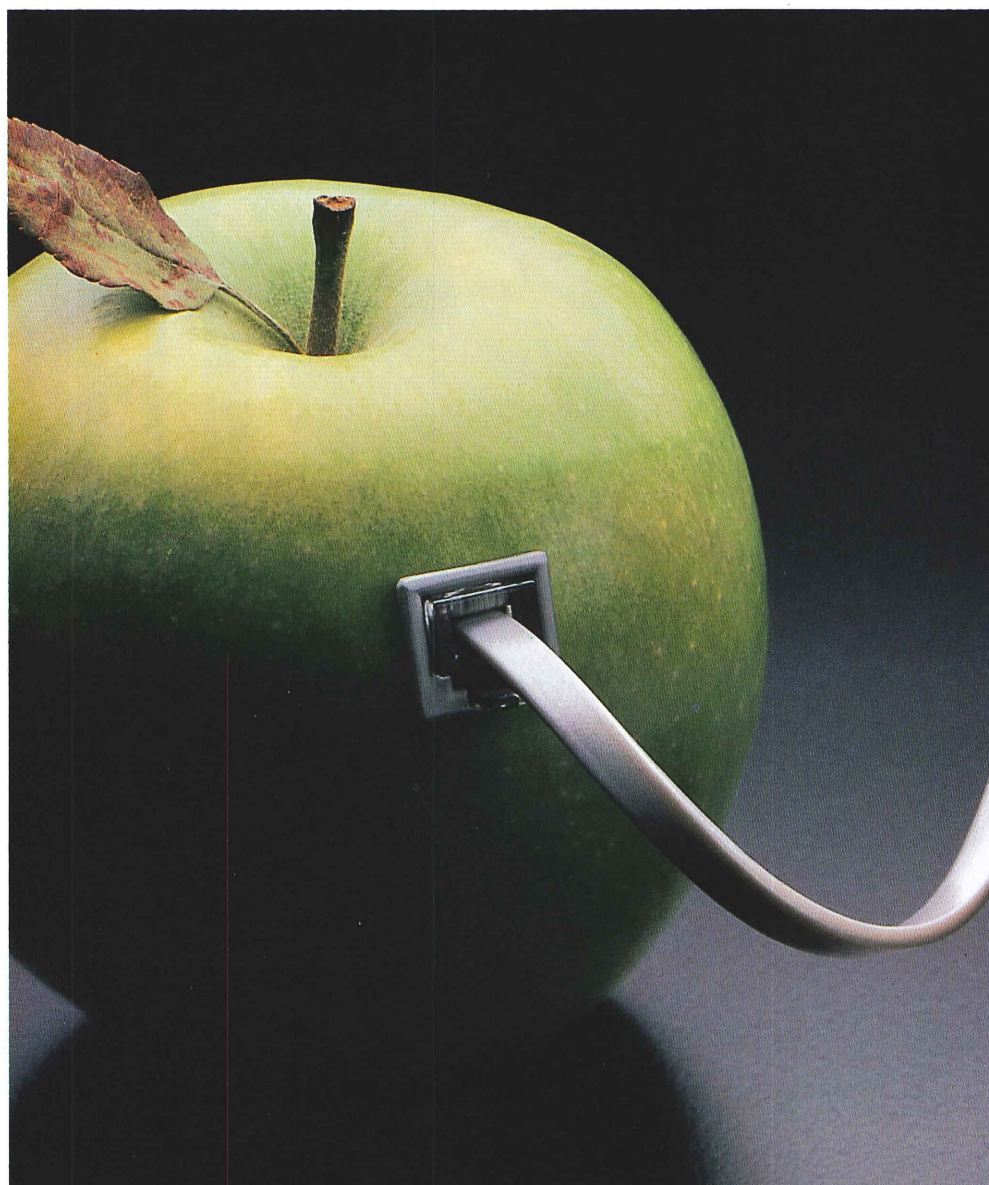
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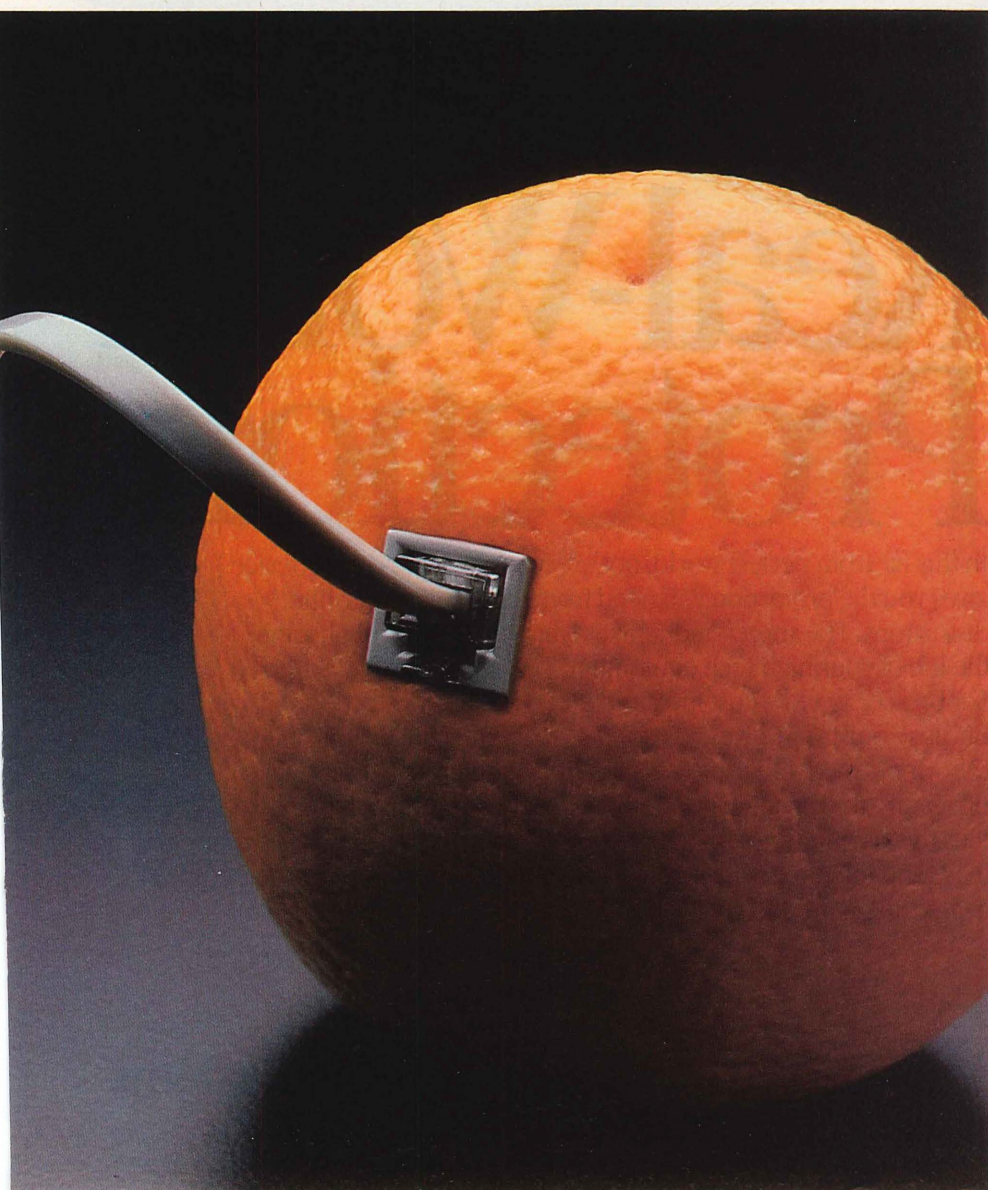
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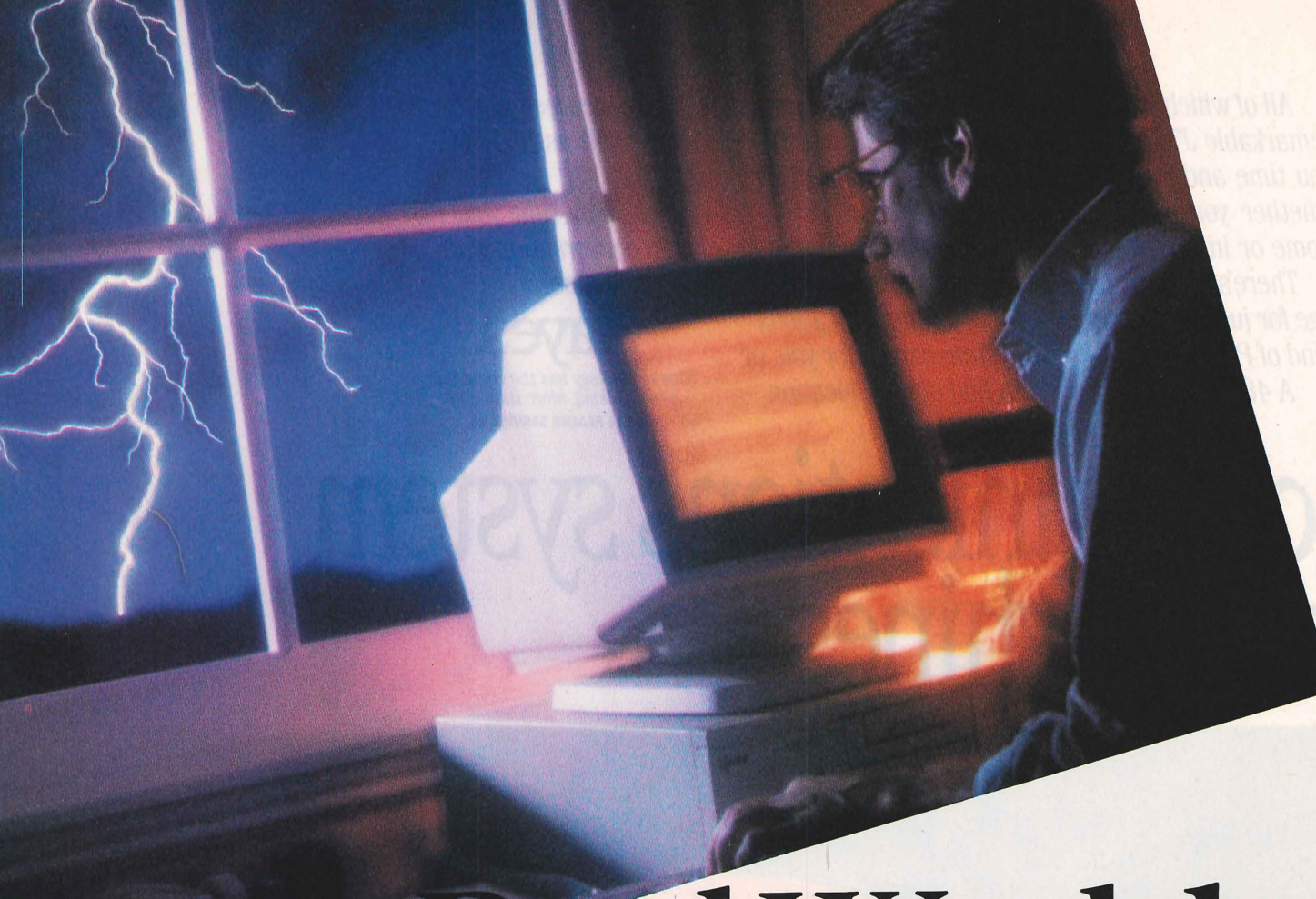
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Page 17

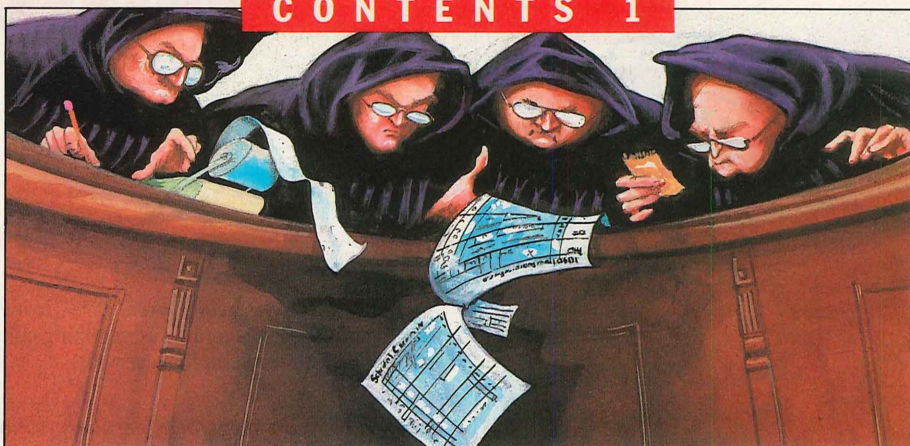


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COVER STORY

Winning Tax Tips

Page 45

Each year, Uncle Sam takes a bite out of everyone. But you can lessen the sting. Here you'll learn strategies for deducting your home office, avoiding and handling audits, preparing accurate returns, and filing taxes electronically. *Plus:* A roundup of 13 tax-preparation software packages.

HOW-TO

On My Own, Part III: Keeping Business Records

Page 55

Accurate business records are a necessity, especially at tax time. The third installment of HOME-OFFICE COMPUTING's series on one person's shift from a corporate to a home-office lifestyle focuses on identifying what information you need to keep on file and on developing a record-keeping system that works for you.

BUYER'S GUIDE

386SX-Based Computers

Page 57

Because of ever-advancing technology, prices of 386SX-based computers have dropped drastically in recent months. If your business could benefit from lightning-fast performance, formidable processing power, and true multitasking, then one of the seven new SX computers reviewed here could be your best buy.

PROFILE

Computerized Recruiter Targets Market, Hunts for Clients

Page 62

Headhunter Bill Vick places senior executives in growing microcomputer companies. Thanks to his previous experience in the computer industry, he's learned how to equip his own home office with technology that both enhances his working style and helps him stay on top in this fast-paced business.

PRODUCTS

NEW

Product Previews

Page 17

Our new monthly department gives you first looks at new hardware, software, and office products from HOME-OFFICE COMPUTING's editors. *This month:* Tandy's leaner, meaner lineup; an update on multimedia products; XTree's newest bloom; a smart backup utility; easy-to-use tax software; and Toshiba's latest (and lightest) computer.

Hardware Reviews

Page 64

Portable Computers: Apple Macintosh Portable, Toshiba T5200/100. *Dot-Matrix Printer:* AEG Olympia NP 80-24. *Facsimile/Telephone Answering Machine:* Toshiba 3600. *Cordless Telephone:* Cobra CP-478.

Software Reviews

Page 68

Reviews of *Excel* and *Wingz*—a face-off between two Macintosh spreadsheets; the latest release of *WordStar*; *ViewLink*, a file-organizing program; and *PowerMenu*, a versatile DOS shell.

Best-Selling Software

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COLUMNS

ShopTalk

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Should You Accept Credit Cards? If So, How? Home-business consultant Joanne Pratt gives readers advice on credit cards, mixing computer and video technology, and marketing a customized diploma service.

Clinic

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Answers to Your Computing Questions. HOME-OFFICE COMPUTING's editors answer readers' questions about confusing computer standards, selecting a print spooler, and hooking up a scanner.

Working Smarter

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Expand Your Business Without Expanding Your Office. It can happen—the day may come when your business outgrows your available space. Here, columnists Paul and Sarah Edwards offer eight tips on letting your business take flight without adding a wing to your house.

Workstyles

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Home-Office Supermarkets. Small, understocked office-supply stores may be a thing of the past, according to our telecommuting senior editor Nick Sullivan. Convenient new office superstores let him shop for his home-office necessities as easily as he shops for groceries.

DEPARTMENTS

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Up Front

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News, advice, tips, and a shot of humor on computing, using home-office technology, and running a home business. *This month:* Volunteering your technical expertise to nonprofit organizations, avoiding expensive international fax charges, telecommuting in the aftermath of the San Francisco earthquake, and more.

Word Processing

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Can You Become a Novelist in Four Easy Lessons? If you're starting from square one, or even if you want to polish your skills, *WritePro*, a set of lessons for fiction writers designed by novelist Sol Stein, can help you structure your prose and improve your style.

Desktop Publishing

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Templates: The Quickest Way to Attractive Pages. Page-design templates are the frozen food of desktop publishing. But a good, flexible design template can help satisfy your hunger for quick, consistently well designed pages.

Software Solutions

Page 34

How I Organized My Tax Records with a Spreadsheet. Here, you'll find out how one home-based non-techie devised a spreadsheet scheme that not only helped with her taxes but was actually useful enough to sell as a commercial software product.

Telecomputing

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Get Your Share of Government Contracts. How would you like to do business with the nation's biggest customer—the federal government? The Commercial Business Daily database, a searchable record of nearly every request for business proposals and contract bids the government makes, can give you an edge for adding Uncle Sam to your client list.

Business 101

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How to Work with an Artist. Just as with any outside contractor, there are guidelines to follow when you need an artist for your business. Here are seven tips for finding, hiring, and working with a graphics professional.

Home-Office Shopper/Classifieds

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THE \$49 TAX RETURN SOLUTION.



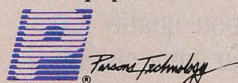
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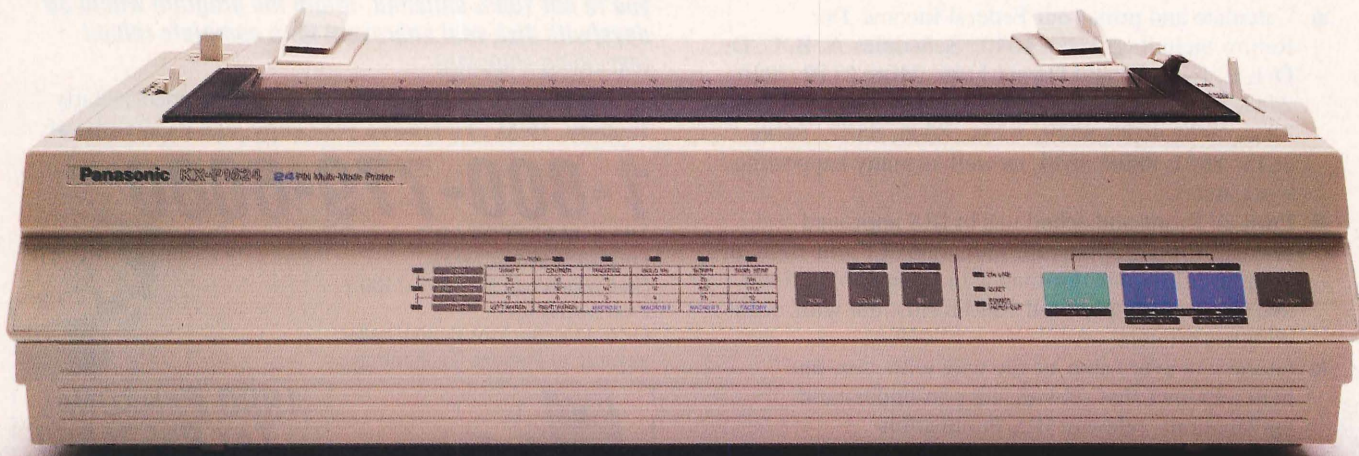
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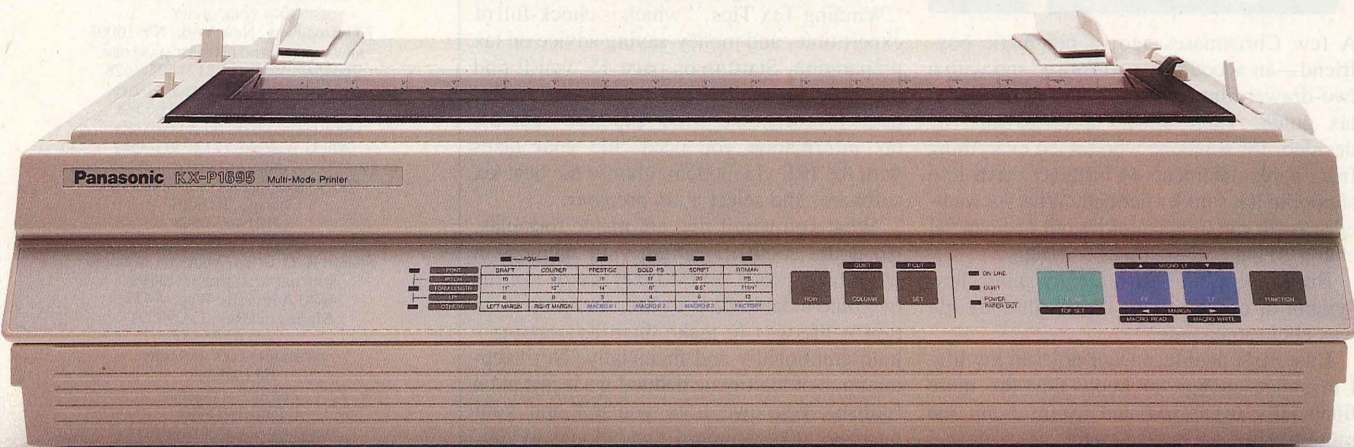
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CIRCLE READER SERVICE 50

How I Made My Taxes Less Taxing



A few Christmases ago, a pragmatic boyfriend—an accountant—surprised me with a two-drawer filing cabinet and an H&R Block tax guide. There wasn't a better gift, he decided, for someone who tossed everything from bank statements to birthday cards into shopping bags under her bed. What *he* wanted was for me to make order out of financial chaos. What *I* wanted was a stereo.

But as I cut the ribbon off my shiny, new symbol of organization, I knew that my life was about to change.

Like most people, I *want* order in my life. I'm smart enough to know that the more financially organized and aware I am the more likely I am to save money at tax time. I just didn't know where to start. Or if the payoff was worth the effort.

Later that winter, I felt ready to give it a shot. I approached my taxes like a novice gardener would take on a garden: I did a little research, then rolled up my shirt sleeves and dug in. First, I skimmed through my tax guide and learned a thing or two. Then I weeded through mounds of paper. Those mounds turned to piles, piles turned to files, and the files disappeared into my cabinet. It was liberating. I was finally taking control of my finances.

Don't let me mislead you. I've always been better at starting something than maintaining it. Sometimes, my filing system gets off track. This past year it completely derailed. I got married (not to the accountant), which complicated my finances exponential-

ly. Overwhelmed, I put the T-word out of my mind, and my file drawers started to resemble a high school student's locker.

I needed some motivation to get back my financial finesse. It came to me in early January while I was starting to work on this issue of HOME-OFFICE COMPUTING. The pages that follow are loaded with tax advice and inspiration that, I hope, will motivate you, too. You'll find a first-person account, written by business owner Corey Sandler, who swears by his system of keeping business records in tin boxes (page 55). There's also a story by Linda Stern, a freelance writer who keeps track of her tax deductions with a simple spreadsheet template that she wrote herself—and then sold (page 34).

And don't skip this month's cover story, "Winning Tax Tips," which is chock-full of expert time- and money-saving advice on tax preparation. Starting on page 45, you'll find out how to avoid—and handle—an audit, deduct your home-office expenses, get the tax information you need, file your taxes with the IRS via modem, choose the best tax software, and select a tax preparer.

What you won't find are magic formulas. No doubt about it, getting your finances in order takes work. But if taxes are one of the two unavoidable facts of life, then organization is the way to make them less taxing—both emotionally and financially. Not keeping track of legitimate deductions is just plain foolish. You owe it to yourself and your business to keep money that belongs to you.

I plan to hold onto *my* money. After reading the manuscripts for these stories, I went home and dumped the contents of my filing cabinet onto my living-room rug. In a few hours, I had resurrected my filing system. My husband and I also started an electronic dossier: We now keep a budget, organize our records, and balance our checkbooks using two personal finance software packages.

Internal Revenue Service, I'm ready for you. And when I get my refund check, I think I'll buy that stereo.

Bernadette Grey

BERNADETTE GREY
EXECUTIVE EDITOR

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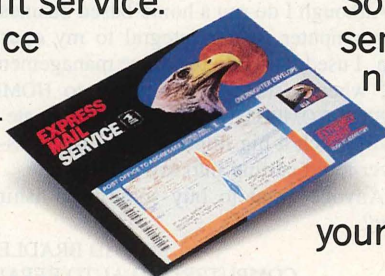
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PORTFOLIO PROBLEMS

I read the review of the Atari Portfolio by Fran Chesleigh ("Pocket Organizer Plus," December 1989, page 81) and would like to follow up with a few comments from someone who bought one, tried to make use of it, and returned it.

I believe that the Portfolio is an excellent idea, but the marketing hoopla surrounding it, the "it can do it all" hype, is a bit misleading.

I have a Tandy DMP 130 dot-matrix printer as my main output device, and when I printed material directly from the Portfolio, I got output littered with random characters and misaligned sentences. After trying all possible options to fix the problem, I gave Atari a call. I was informed that the problem was being dealt with (apparently Tandys aren't the only printers that are a problem for the Portfolio), and that a software fix was forthcoming.

It's true that I could have gotten around the problem by downloading my Portfolio files to my main desktop computer. But if the advantage of the Atari is computing on the go, shouldn't you be able to print on the go?

And, since I believe printer handling is covered by the computer's inboard ROM, wouldn't a software change involve sending the unit back for repair?

The Portfolio's QWERTY keyboard caused problems as well. I just could not cram my fingers close enough to be able to touch type. Another two inches in length would have added a great deal of utility.

Owing to these problems, I returned the Portfolio and replaced it with a product that sports a full-size keyboard and has no trouble with my printer—a Tandy WP-2 portable word processor.

PARKER L. PHILLIPS
Monroe, Ohio

IN SEARCH OF EXCELLENCE

I have been operating a home-based business for 16 years. I am a freelance writer for major corporations and small firms, and I also served as chairman of a local home-based business committee.

Until about a year ago, my idea of a modern office was one with an electric stapler. But I finally saw the light and purchased a dedicated word processor, which I rapidly outgrew. When I went out into the marketplace to search for a full computer system, your publication seemed an invaluable resource. I took the word of your authors as gospel—until the December 1989 issue and Jan Dean's timesaving recommendations ("Put Time on Your Side," page 66).

I disagree with several of her statements, but I cannot countenance her statement

HOW YOU CAN STILL SAVE ON 1989 TAXES

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84 Hardware And Software Reviews
Protect Your Ideas: Trademarks, Patents, and Copyrights
How to Increase Your Computer's Memory

"Recognize that most projects require completion and few require perfection."

All of my writing projects over the years were done to perfection—or at least as close as I thought they could get—not just to completion. Perhaps Dean's statement is indicative of what has happened to quality in the workplace in this country.

MARVIN GISSER
South Euclid, Ohio

HOME VS. HUNT

HOME-OFFICE COMPUTING is really starting to upset me! I am an avid outdoor enthusiast and, as such, I subscribe to at least a dozen outdoorsman journals in addition to your publication. Especially during the winter months, I look forward to perusing my hunting and fishing publications. But something new and frightening has happened.

I recently received a stack of my usual magazines as well as the December issue of HOME-OFFICE COMPUTING. I sat down right away and read your magazine first.

Why do I find myself clipping and saving articles on spreadsheets and desktop publishing? Why am I compiling a list of computer upgrades when I should be compiling a list of tackle I need for the next fishing season?

Although I do run a home-based business, my computer wasn't integral to my operation. I used it mainly for office management. So, when I started subscribing to HOME-OFFICE COMPUTING, I didn't anticipate it having such a big impact on my business—never mind cutting into my leisure time.

Anyone want to buy some used fishing gear?

DAVID BRADLEY
COMPUTERIZED AUTO REPAIR
SPECIALISTS
New Baltimore, Michigan

THE GREAT COMMUNICATOR

I've had an on-and-off relationship with HOME-OFFICE COMPUTING over the years. With my recent move into a part-time home-based programming and consulting business, I decided to subscribe to your magazine again. Now HOME-OFFICE COMPUTING is the most vital magazine for my consulting practice.

One of my biggest challenges is dealing with the language barrier between computer people and the general public. It is easy to assume that since PCs have been around for a while, everyone knows and understands the buzzwords. If that were so, the need for consultants would be waning instead of booming.

Your magazine helps me clearly communicate computer concepts to my clients. By having a guide like HOME-OFFICE COMPUTING, my clients benefit because they understand what I'm saying, I benefit because I can communicate more clearly, and we both benefit because we're speaking the same language. Sure, other publications can give me all the technical specs I need, but only yours exemplifies the most important factor for success in business, communication.

ELDON S. SARTE
Silver Spring, Maryland

LACK OF COVERAGE

I just received my January 1990 copy of HOME-OFFICE COMPUTING containing your laser-printer article ("Buyer's Guide to Laser Printers," page 53). On page 55 I found a very comprehensive list that included 28 models in five categories. Nowhere did I find a mention of the Tandy LP-1000.

Out of 17 HP-compatibles listed, it seemed ours would have been one of only two units that are supplied with a full 1.5MB of RAM. While the LP-1000 is HP compatible, we don't offer font cartridge slots. Instead, we ship the LP-1000 with HP-compatible "B" and "F" soft fonts. After all, if you buy a printer with slots, you're going to have to pay some more money for the cartridges.

ED JUGE
DIRECTOR, MARKET PLANNING
RADIO SHACK
Fort Worth, Texas

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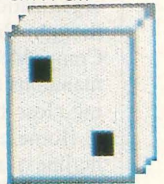


You can play the computer. Six different characters with artificial intelligence let you challenge the computer



on different skill levels and in different subjects. Holly Wood is tough to beat in Entertainment. What Deke Athlon doesn't know about Sports isn't worth knowing. And Arndt Sharp is pretty dim all around.

You roll the die.



The computer instantly indicates your options. You



decide which location best fits your strategy.

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close. TRIVIAL PURSUIT® The Computer Game. It plays the way you do.



EDITED BY KAREN KANE

Volunteers Help Nonprofits Compute

A few years ago, Daniel Ben-Horin turned on his Mac, connected to a bulletin board, and asked a simple technical question. The responses he got were not only informative but also profuse, openhearted, and spirited. His background in the nonprofit sector helped him recognize an immediate opportunity. If people with technological skills like to share their knowledge and nonprofit organizations need technology to help their causes, why doesn't someone make the match?

That's exactly what Ben-Horin did when he founded CompuMentor, a home-based, not-for-profit business designed to match computer-savvy volunteers with nonprofit organizations in need of technical help. Although Ben-Horin still works at home, CompuMentor's San Francisco office now maintains a database of 330 volunteers helping close to 300 Bay Area groups.

Homeless shelters, suicide-prevention hotlines, and symphonies, for example, all rely heavily on computers to process their mailing lists, organize fund-raising projects, and create direct-mail materials. "There is no way to be involved in nonprofit without computers," says Randy Dunagan, program director of CompuMentor. But not all non-

profits have the resources to hire a technical-support staff. That's where CompuMentor volunteers (one third of whom are home-based computer consultants) come in. The program directors do their best to match skills and sensibilities to needs. When a volunteer is genuinely interested in a group's cause and can also provide the information it needs, the rewards are great for both sides.

If you are interested in becoming a men-

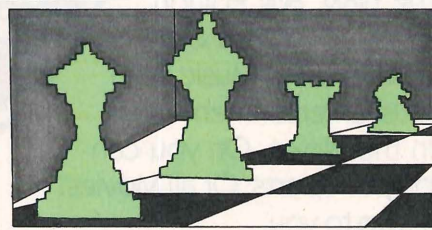
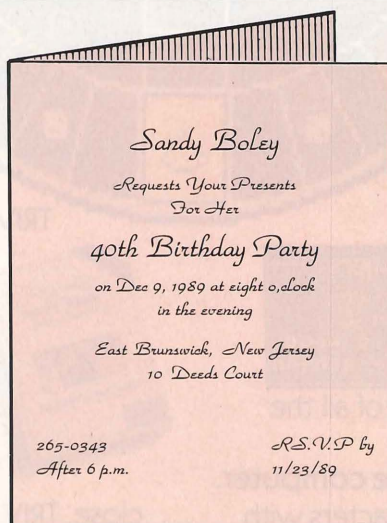
tor in the Bay Area or would like to help organize a similar program in your area, write to CompuMentor at 385 8th St., 2nd floor, San Francisco, CA 94103, or call (415) 255-6040 and ask for the free CompuMentor start-up kit. Even if you don't join the CompuMentor group, the start-up kit can give you ideas for volunteering on a less formal basis. As Ben-Horin puts it, "Together, we can make sure computers keep their promise."

—K.K.



Business Blunder Of the Month

Sandy Boley of South River, New Jersey, hired a desktop publisher to make invitations for her birthday celebration. It wasn't until after they were mailed that she noticed the error. We're happy to note that Boley did indeed receive many presents. We hope the desktop publisher buys *himself* a present—a part-time proofreader.



Chess Champ Stumps Deep Thought

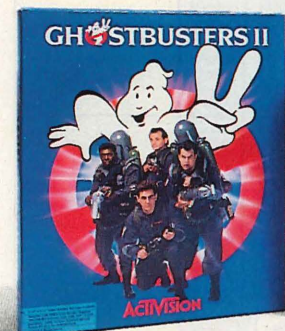
Developed by a team of graduate students at Carnegie-Mellon, *Deep Thought* is the most powerful computer chess program in the world. Recent victories by the electronic chess master led to the inevitable confrontation with current world champion, Gary Kasparov. Though strongly favored, Kasparov surprised everyone with his easy victories in the two games. Even so, experts predict that within five years we could see a computer world champion. —RICHARD SHEFFIELD

Up Front is looking for anecdotes and humorous stories about doing business with computers and other technology. If you recall an embarrassing situation with a client, receive a funny fax, or hear a brilliant voice-mail message, for example, tell us

about it in 200 words or less. We'll pay \$25 for every submission we publish. We reserve the right to edit for style, length, and clarity. Write to *Up Front* Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

THE HOT TEN SOFTWARE PICKS OF THE MONTH!

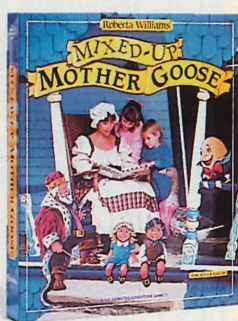
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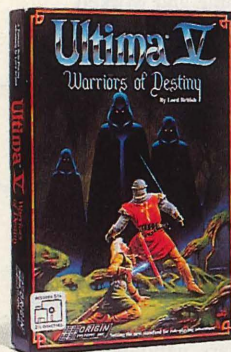
34⁹⁵ Reg. 39.95
Ghostbusters II. Slime's on the rise. Vigo the Carpathian won't stay dead. 3 1/2", #900-2845



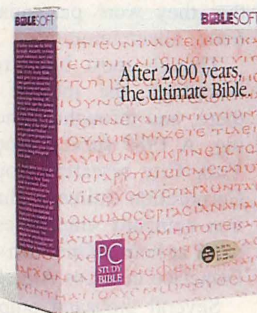
39⁹⁵ Reg. 49.95
Sim City. Design and build the city of your dreams. Simulates real-life issues. 3 1/2" / 5 1/4", #900-2846



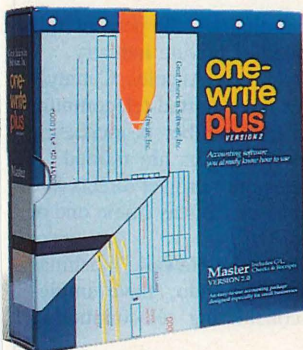
19⁹⁵ Reg. 23.95
Mixed-Up Mother Goose. A children's adventure in nursery rhyme land. 3 1/2" & 5 1/4", #900-1210



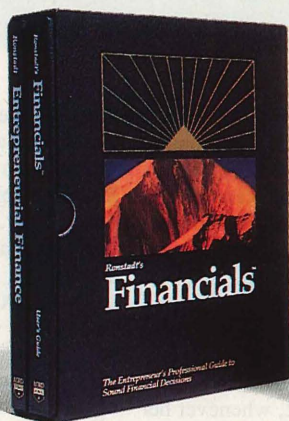
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Ultima V. Face the Warriors of Destiny! Striking animation. 3 1/2", #903-1270
 5 1/4", #905-1270



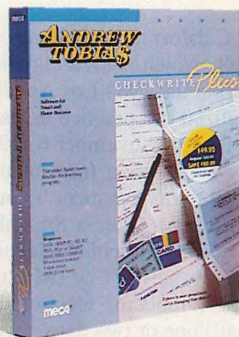
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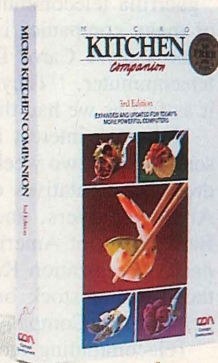
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Earthquake Shakes Telecommuting Sense Into Corporations

For a few days following the October 17 earthquake in San Francisco, many Bay Area employees stayed at home and worked in their kitchens or living rooms, unaware that they were participating in a national trend: telecommuting.

Though most have returned to normal workdays, the interest in telecommuting there, and throughout the country, is growing. A 1989 survey conducted by the New York City research group Link Resources Corporation estimates that nearly three million company employees do some of their work at home. One fifth of them live in San Francisco and Los Angeles.

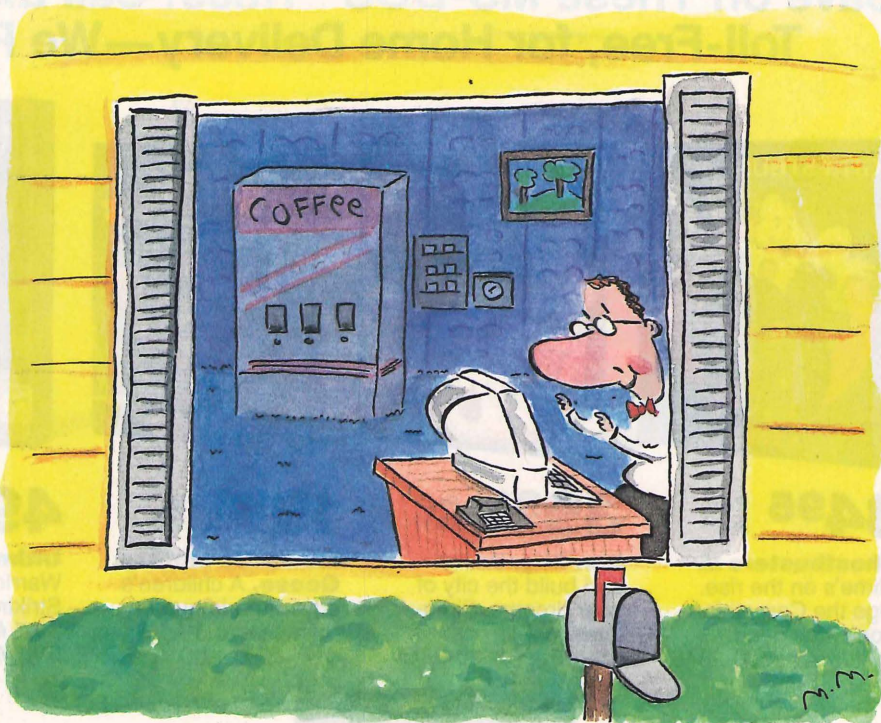
Several thousand employers nationwide, primarily in the computer and telecommunications industries—including IBM, Apple Computer Corporation, Pacific Bell, AT&T, The Travelers Insurance Companies, and J.C. Penney—allow for some sort of telecommuting. All of the above have formal telecommuting programs, but at other companies, it takes place without top management approval, in what analysts call “guerrilla telecommuting.” “The mind-set of many companies is still cautious,” says Link analyst Carol D’Agostino, herself a telecommuter. “They are not jumping into it as fast as we had thought.”

However, interest is growing. A how-to seminar held two weeks after the earthquake drew representatives of a dozen major Bay Area employers, including Wells Fargo Bank, Bank of America, the health maintenance organization Kaiser Permanente, and the discount stock brokerage firm Charles Schwab and Company.

Telecommuting consultant Gil Gordon says his company, Gil Gordon and Associates of Monmouth Junction, New Jersey, has received more inquiries from large corporations in the past six months than in the last three years. “Telecommuting has moved beyond the novelty stage and is becoming accepted. As with any innovation, few companies want to be first, but many want to be second.”

Some Bay Area companies are implementing programs drawn up before the earthquake.

- Thirty employees telecommute in a pilot program at blue jeans manufacturer Levi Strauss & Company, one of San Francisco’s biggest employers.



- California telephone company Pacific Bell, which started allowing telecommuting during the 1984 Los Angeles Olympics, formalized the practice as part of management policy on November 6, 1989. “We are seeing a transition from management by oversight to management by output and by product,” says Marcia Strahley, a Pacific Bell manager. Strahley telecommutes across the San Francisco Bay (with the help of a computer, modem, electronic mail, and voice mail) one or two days a week, whenever her work does not require meetings. Approximately 1,000 of her 20,000 colleagues do the same, she says, and that number is bound to grow.

- In Los Angeles, the city of gridlock, tough new air-pollution regulations stipulate that organizations with 100 or more employees reduce the number of cars driven to work each day. Approximately 50 of the 1,000 companies that have submitted plans so far are interested in telecommuting, including such national firms as Avon and Coopers and Lybrand.

- Local governments in the Los Angeles area, which have to reduce employee trips

through telecommuting by 20 percent this year, are way ahead of private industry.

More than 150 of Los Angeles County’s 80,000 employees have started telecommuting already, and that number is increasing every day as new managers are trained. A City of Los Angeles pilot project directs 500 of its 40,000 employees to stay home one or two days a week.

- Other states, including Hawaii, Washington, Florida, and Colorado, have implemented or are considering telecommuting programs.

- On the federal level, the U.S. Air Force is expanding a telecommuting program it started last summer, and legislation now before both houses of Congress calls for more “flexiplace” projects throughout the government.

Even though “flexiplace” is an oxymoron, it may be a better term than “telecommuting.” Says California State’s telecommuting program manager David Fleming, “People think telecommuting means you have to have a computer, when many can start with just a telephone and add a computer later.”

—JIRI WEISS

The LASER 286/2 races through tasks at 6 or 12 MHz. Thirteen feature-packed configurations mean there's a 286/2 for every business or home use.



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How a 44-Second Fax Cost Me \$34

A 44-second fax to Japan once cost me more than a two-year subscription to HOME-OFFICE COMPUTING. Here's what happened and how you can avoid the same costly mistake.

I own a home-based export business, Northwest Gourmet Foods/Northwest Export Trading Company, and needed to fax a single-page document to a Japanese client. The line was busy, so my fax machine's auto-redial feature took over. Traditional telephones assume that an occupied phone line is busy and a connection isn't completed. But to a fax machine, an occupied line can mean two things: that it can't get through to the other fax machine or that it has made a connection but isn't receiving confirmation from the other machine.

Get the catch on the second definition? Your fax isn't transmitted but the phone company charges you for the call because a

connection has been made with another number. And if your machine redials automatically and gets another busy signal, you'll be charged again.

How often does this happen? My fax to Japan finally went through on the twelfth or thirteenth redial and cost me \$34 after it was all over. The machine showed a busy signal; the phone company's records showed that I reached a phone number in Japan. Guess who paid? I took AT&T's suggestion and disabled the automatic-redial feature on my fax machine, but I continued to investigate this problem.

MCI's Fax Network was a bit more charitable. Folks there say that differences between some countries' telephone switching systems and certain fax machines make this "a problem that's not too common but not all that rare." An MCI spokesperson told me that a fax call may not actually reach

another machine, but the telephone company's billing system kicks in anyway. If you fax the fax-transmission forms showing an incomplete call to MCI, it will credit your account. MCI suggests disconnecting the redial feature when you get busy signals.

My fax dealer says both phone companies are wrong. He claims that the other fax machine wasn't connected properly. If the sending machine doesn't receive an OK from the receiving machine, it assumes the line is in use, the fax isn't on auto-receive, or someone has manually answered the phone.

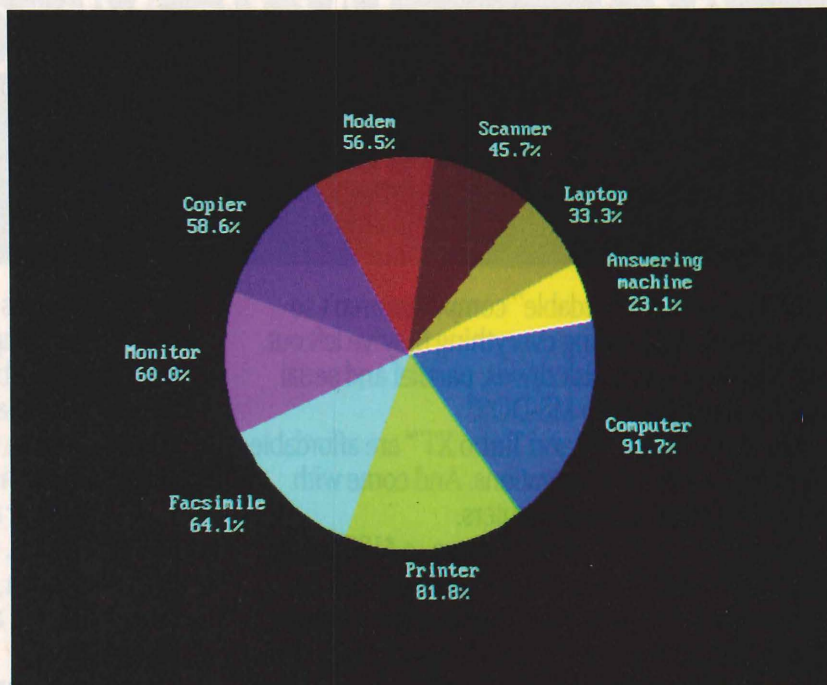
Confusing? Whatever the reason, the solution is simple. Use your monitor speaker or a handset when you send a fax. You'll spot the discrepancy quickly. If you send faxes—particularly international ones—using auto-send and auto-redial features, expect to be billed for occasional incomplete passes.

—PETE FRETWELL

Home-Based Workers Plan a Five-Year Shopping Spree

Most people who work from home plan to make extensive equipment purchases in the next five years, according to Venture Development Corporation's recent home-office survey. Venture Development Corporation, a management-consulting firm for the electronics industry based in Natick, Massachusetts, surveyed both self-employed home-office workers as well as telecommuters. When asked what the most important factors are in making purchase decisions, respondents cited service and support, low price, a convenient store location, and product availability. Those surveyed (72 percent of whom run a full-time business at home) expect to pay less for a desktop computer than they would have last year but are willing to spend more for a laptop model. Survey results also show that of the 91.7 percent who plan to purchase a computer, 33 percent said they would buy within the next 6 to 12 months. Most of the people who want laptops plan to purchase one in one to five years. What did they hail as the most indispensable piece of home-office equipment? The computer, of course, came out on top with 29.8 percent of the vote, followed by the answering machine (27.4 percent) and the desktop calculator (23.8 percent).

—K.K.



Results from Venture Development Corporation's survey show the percentage of home office workers who plan to purchase more equipment in the next five years. Percentages total more than 100 because of multiple responses.

New

PRODUCT PREVIEWS

EDITED BY MARIE ALVICH



About Product Previews: In this new monthly department, you'll read about the latest hardware and software for the home office. While not complete reviews, mentions in Product Previews are based solely on editors' evaluations rather than manufacturers' press releases. Many of the products that appear here will be fully reviewed in later issues.

Next month, we'll tell you about some of the hottest hardware and software unveiled at the latest Consumer Electronics Show.

Tandy's New Lineup

HOME-OFFICE COMPUTING was one of a handful of magazines invited to Tandy's corporate headquarters in Fort Worth, Texas, a couple of months ago for a private preview of Tandy's new product line.

Well, the news is good: By dropping prices, bundling features, and shrinking footprints, Tandy has come up with a competitive line of 286- and 386-based computers. When you factor in their widespread availability and service and the full range of speed and expansion choices available, the new units may be a logical buy for many home offices.

Tandy's six new, trimmed-down (a few inches from the height and a few from the depth) models include one 10-MHz 286 (\$1,499), one 16-MHz 386SX (\$1,999), and four 386s—ranging in speed from 16- to 33-MHz, and in price from \$2,999 to \$5,999. Tandy didn't, however, announce any i486 or EISA machines—it doesn't feel

that these machines are in demand yet by home users and small businesses.

We also sneaked a peek at the new 2800 HD laptop. The \$3,499 laptop, developed and marketed jointly with Panasonic, is a 12-MHz AT compatible with a 20MB hard-disk drive in an attractive black case. But at 12.5 pounds with a mere two hours of battery life, this laptop looks as if it will spend most of its time on the desktop.

Last but not least in Tandy's lineup is a new printer. Less expensive than any other Tandy 24-wire printer, the \$549 DMP 240 has an unusual twist: built-in color capability. The printer also has paper parking and other handy paper-handling features.

Watch for full reviews of several of Tandy's new family members in upcoming issues. Or, pick up Tandy's newly released catalog and check out its entire line of products—old and new.

—LANCE G. PAAVOLA

Movies on Your Monitor

Multimedia (computerized presentations combining data, graphics, audio, and video) was one of the themes of this fall's COMDEX. In his keynote address, IBM senior vice president George Conrades banged out some hot beats on a computerized drum machine and screened a video clip of Englebert

Windows or *Presentation Manager*, they let you move a window of live video around your screen, expand its size or shrink it down to a moving-picture icon, or freeze and grab a frame and move it into your favorite graphics or desktop-publishing program. You can pipe video and audio into



Humperdinck singing the lament of overdue software packages, "Release Me."

Among the technologies on display on the show floor was VideoLogic's (245 First St., Cambridge, MA 02142; [617] 494-0530) Digital Video Architecture (DVA). DVA boards for IBM PCs, PS/2s, and compatibles (a Mac II card is also on the way) bring full-motion video to your VGA screen. When used with an interface like Microsoft

your computer from any source, whether it's a laserdisk player or a live TV broadcast.

Not only is the technology still a bit pricey (the boards and accompanying software list for \$2,645), but it's not *easy* to perform the tasks mentioned above. As the price comes down, look for live video to be incorporated into computerized business presentations, training programs, and databases.

— L.G.P.

SitBack And Back Up

We all know how important it is to back up our hard-disk drives, but how many of us do it regularly? The longer we put it off, the more time-consuming a chore it becomes—and the more urgent.

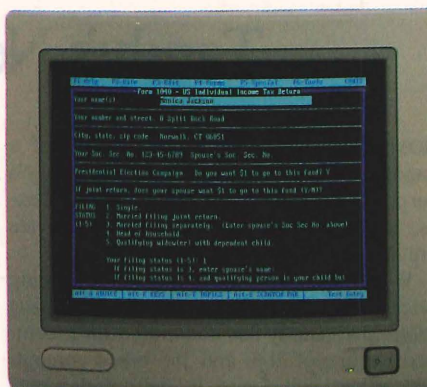
We've discovered a memory-resident utility that takes the bother out of backing up. *SitBack*, the first product from SitBack Technologies (9290 Bond St., Suite 210, Overland Park, KS 66214; [913] 894-0808), makes backups for you whenever your PC is idle, even *while* you're running other programs. All you have to do is let *SitBack* know in advance what to back up and when (for example, all files that are new or have changed since the last backup) and change floppies when instructed. *SitBack* backs up in DOS-readable format so that files can be used directly from the backup disk, unlike some other backup programs and DOS's Backup command. For \$99, *Sitback* brings peace of mind. And it uses only 13K of memory.

—L.G.P.

Prepare Your Own Taxes with "Expert" Help

Do you want to prepare your own tax return? If you need some help walking through the tedious steps, *Andrew Tobias' TaxCut* may be what you need. This new tax program from MECA Ventures (\$80; 327 Riverside Ave., Westport, CT 06880; [203] 222-9150) incorporates an expert-system advice feature from a program known as *Ask Dan About Your Taxes*, formerly produced by Legal Knowledge Systems.

After asking a series of questions (such as "Are you married?" or "Did you sell your principal residence within the last year?"), the "expert" completed the relevant forms for me. If you happen to be tax savvy and



don't want to bother with the whole question-and-answer routine, you can fill out the forms yourself, with the aid of context-sensitive help. Like other tax-preparation software, this program shares information

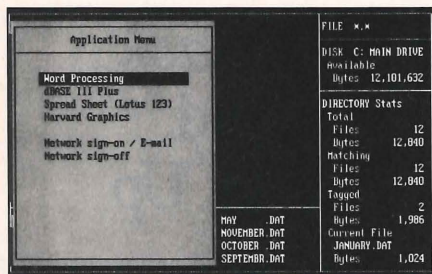
among the forms, so you never have to enter the same information twice.

I had the program check for omitted information or numbers that didn't add up (for example, \$12,500 worth of charitable donations from a \$25,000 income) on my forms—almost like an audit. While the program is not guaranteed to prevent an audit, it may help.

This easy-to-use, inexpensive, elegant piece of tax software can have you printing out IRS-approved forms and schedules on your dot-matrix or laser printer in no time. Look at the tax section in this issue for more advice on tax preparation.

—BRIANNA POLITZER

XTreePro Gold Shines



Looking to keep your hard-disk drive in order? Are you an aficionado of the popular *XTree* disk-management series? Well then you'll love the new features in *XTreePro Gold* (\$129; XTree Co., 4330 Santa Fe Rd., San Luis Obispo, CA 93401; [805] 541-0604)—we sure did. You can now launch up to 13 applications directly from *XTree*'s menu tree. As long as you've predefined batch files that associate files with applications and cover the necessary DOS commands, you can, for example, launch Lotus 1-2-3 from a highlighted .WKS file. In addition, the package now features split windows, mouse support, enhanced file viewing (supporting most word-processing programs as well as 1-2-3, *dBase*, and *Multimate*), a hex editor, and a keystroke-history function that saves your most recent search parameters for repeat execution. Upgrades from any *XTree* product are \$40.

—MICHAEL D. ESPINDLE

Toshiba's Latest, Lightest Laptop



Computers are falling into our laps more often these days. I recently had the chance to preview Toshiba's latest laptop—the T1000SE.

You may be wondering, as I was, how Toshiba's 12-pound T1200 (the most popular of its models) dropped several pounds to become a slender, 5.9-pound notebook computer. Something had to give—the display, the keyboard, or the price—right? Wrong. The \$1,699 T1000SE has everything but a hard-disk-drive option. (It does, however, come with a high-density 3.5-inch floppy drive—which is rare for notebook computers.) So if you don't need a hard-disk drive, this unit deserves a closer look.

The T1000SE's backlit LCD is sharper and clearer than those of other notebook computers on the market today. I'd say it's the best notebook LCD around. And nor-

mally my large hands feel cramped when I'm using a notebook's keyboard. Not with this one. It was comfortable and responded well to my heavy touch.

This thin (12.4-by-10.6-by-1.8 inch) unit runs on a 9.54-MHz Intel 80C86 microprocessor and comes with 1MB of RAM (expandable to 2MB or 3MB). It has a removable battery pack (1.5 pounds) that lasts about three hours, and there's room inside for an internal 2400-bps modem. MS-DOS is included (in ROM), as well as Multisoft *PC-Kwik Power Pack* (which includes disk cache, print spooler, RAM disk, and screen and keyboard accelerators), and hypertext on-line, disk-resident documentation.

This little notebook computer is a great traveling companion for anyone who spends a lot of time on the road.

—STEVEN C.M. CHEN

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PC Magazine, Best of 1989 Awards,
January 16, 1990 issue

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PC Magazine

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Robert Cullen, Home Office Computing

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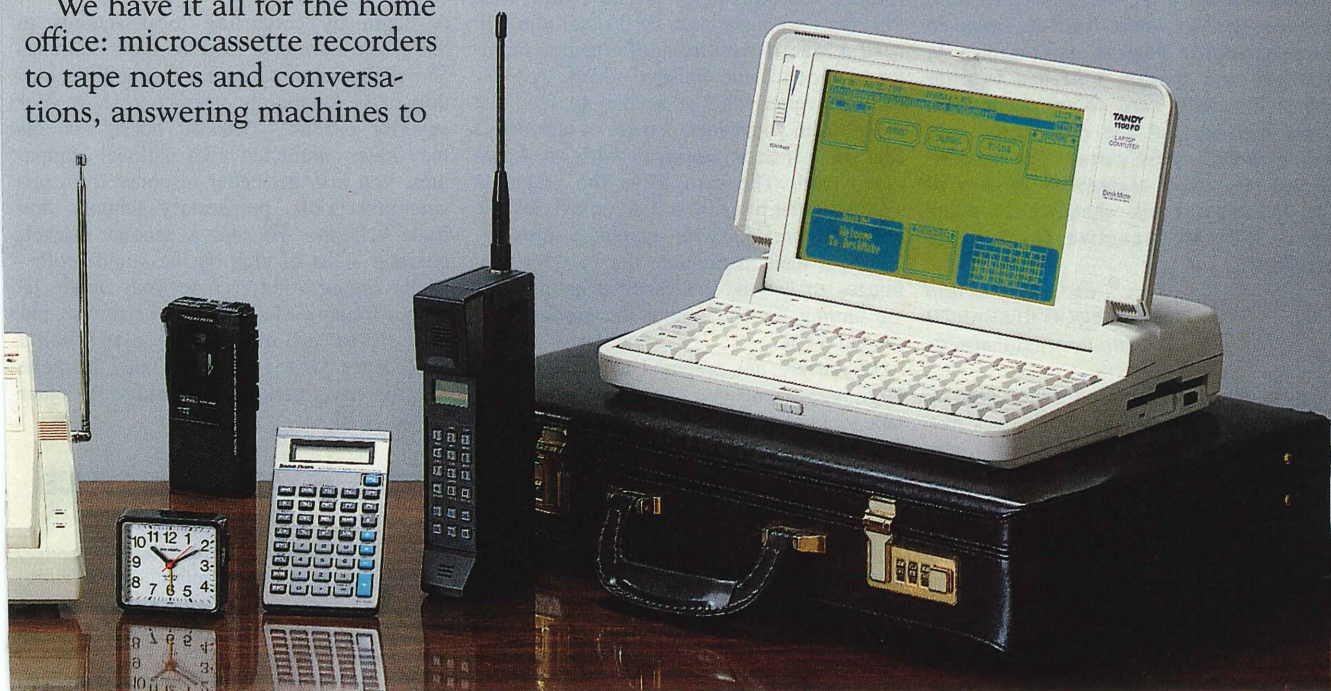
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CIRCLE READER SERVICE 57

Should You Accept Credit Cards? If So, How?

BY JOANNE PRATT



Do you need a business address for your letterhead? If you live in a strictly residential area, it may not be a good idea to use your home address for your business. Another alternative, using a post-office box, may damage your credibility and make it difficult for you to receive deliveries. I've discovered a solution to this problem—the private post office. For a reasonable cost (around \$250 per year), the private post office provides a commercial-size post-office box, a business street address, and a fax number.

Look in your local yellow pages under "Post Offices" to locate the private post office nearest you.

Q. I almost made a big mistake, and I want to let your readers know about it. I plan to sell a newsletter to electronics companies via direct mail and thought I needed to offer payment by credit card to my customers. When I learned that the chargeback rate could be as high as 50 percent (for newsletters and reports), I reassessed my way of doing business; I am changing to using checks, with an incentive for prepaid subscriptions.

CHUCK SABOLIS
AMBERWOOD RESEARCH
Stoughton, Massachusetts

A. You've set a good policy for your type of business. Many home-based businesses truly need to offer payment by credit card, but unfortunately, in addition to high chargeback rates, banks are reluctant to provide merchant status to a business without a permanent storefront (see "Audiotape Business Reels in Profits: The Reutens Struggle to Obtain Merchant Status," page 64 in the November 1989 issue). However, Data Capture Systems (231 Quincy St., Rapid City, SD 57701; [605] 341-6461) accepts home businesses at rates that are 5 percent of the amount charged (slightly more than the retail percentage). Business owners pay an initial \$150 application fee to cover a background credit check and in-home interview. If you qualify, you must buy a small elec-

tronic terminal and printer (\$995), which allow you to communicate with DCS.

Q. I own a fairly large company that manufactures house-moving equipment. I have put together a promotional video using two VCRs; it came out with an unprofessional look. Could you please recommend any products that I can use on my Macintosh Plus to overlay graphics onto the video? I would like to do more than just titling.

RON HOLLAND
PRESIDENT,
RON HOLLAND HOUSEMOVING
Forest City, Iowa

A. Making a video is a great idea for promoting your business, and I predict that homemade productions will become widespread. Unfortunately, because the Mac Plus does not have extra card slots, you will need a Mac II with a multifrequency monitor to produce the finished video. A Genlock converter card is needed to feed the image from your video camera or tape into a Mac II, which is equipped with an Apple video card. The card locks the image in sync with the titles or animation overlay file that you created with graphics software. You can then manipulate the two types of images to get the professional quality you are aiming for and output the product to a second VCR.

If you are not prepared to make such a large investment, you can always bring your tape to a video production service (check the yellow pages) that will be able to produce the professional look you want. The price of such a project will depend on the quality of your tape and the effect you're looking for.

Q. Since I have expertise in writing résumés, I am considering a home-based service as a part-time venture. What résumé software can I use with my Leading Edge computer and letter-quality printer?

OLIVA G. GOREY
Portland, Maine

A. ResumeMaker's (\$50; Individual Software, 125 Shoreway Rd., Ste. 3000, San Carlos, CA 94070; [415] 595-8855) variety

of format styles will help you produce job-winning résumés. Also, its data-entry screens will simplify the process of organizing your clients' credentials. Included in ResumeMaker are sample letters, a name and address database, and other features that you might sell as add-on services to help your clients. Of course, you could use your word-processing software to prepare résumés. You can find books with sample résumés at a library or bookstore.

Q. How can I market a service offering customized awards and certificates such as diplomas? I will use my IBM-compatible and laser printer to produce high-quality awards on French parchment paper and paper with preprinted color borders.

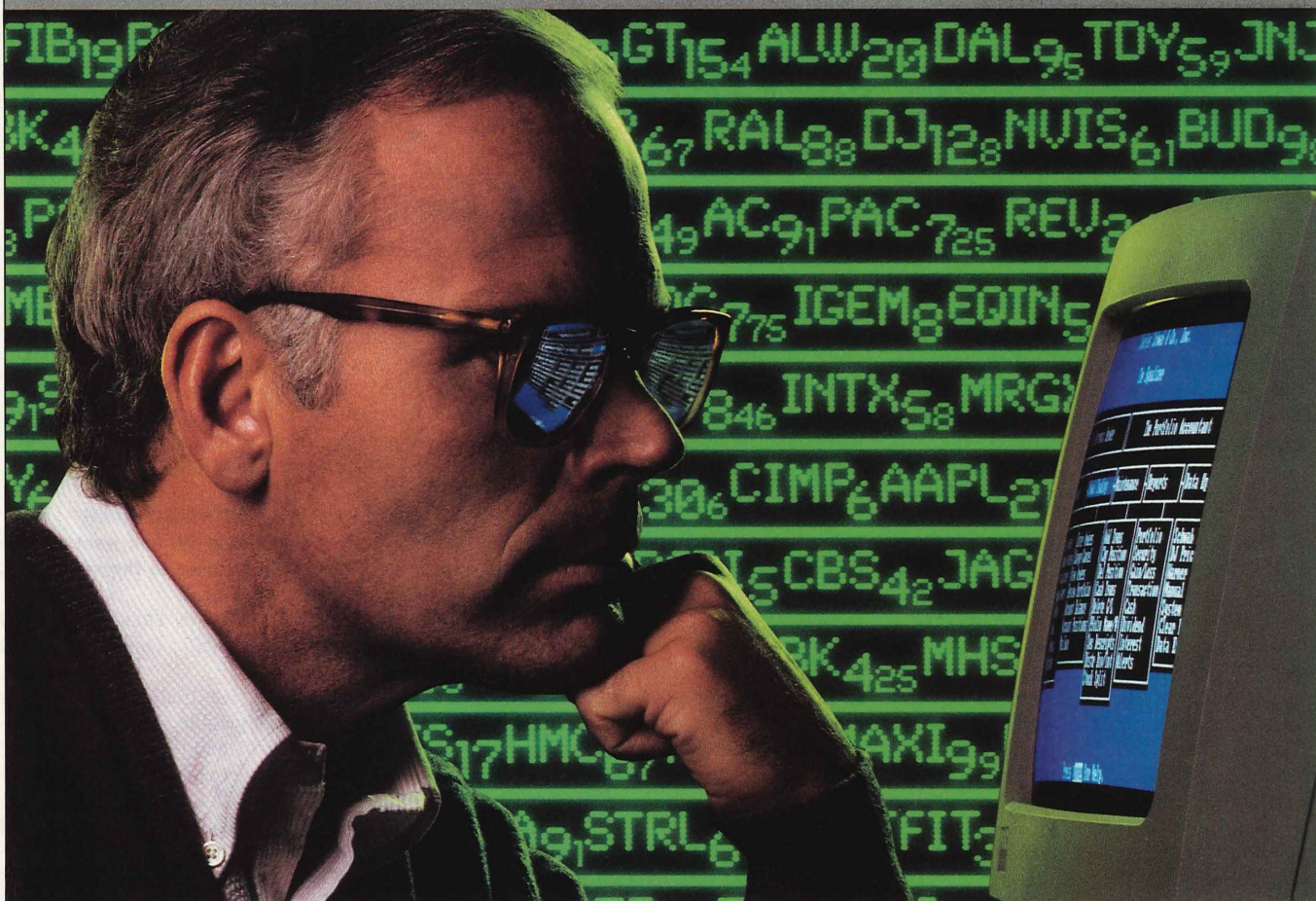
MARVIN L. REID
Austin, Texas

A. Begin by contacting local schools to learn who currently supplies their diplomas and if the schools require competitive bidding. Ask for the opportunity to show your superior product. Because public schools may have contracted with national companies, you may get better response from private preschools, preparatory schools, and trade schools. To test a second market, compile a list of area business and professional organizations (go to your public library for help). Mail a sample certificate and price list to each organization, along with a cover letter. Once you've identified the niche in your city, market your product to other localities. ■

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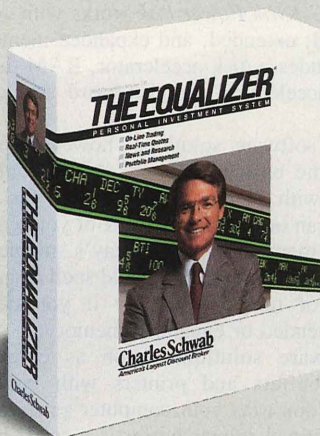


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Answers to Readers' Questions

BY STEVEN C. M. CHEN AND KAREN KANE

THE BUS WARS

Q. I own a Tandy 1000SL and am a little concerned and confused about the new bus standards. What is the difference between ISA, EISA, and MCA, and which bus does my computer have?

KEVIN KRUEGER
Egeland, North Dakota

A. The Tandy 1000SL has an ISA (Industry Standard Architecture) bus, as do most IBM PC compatibles with 8086, 8088, 80286, and 80386 microprocessors. MCA (Micro Channel Architecture) made its debut with the IBM PS/2 line (Model 50 and above). The newest bus, EISA (Extended Industry Standard Architecture), was proposed by the Gang of Nine—AST, Compaq, Epson, Hewlett-Packard, NEC Technologies, Olivetti, Tandy, Wyse, and Zenith. EISA is intended to compete with IBM's MCA bus and is found in i486-based and some 33-MHz 386-based computers.

What's a bus? A bus, or bus standard, is a system that allows expansion cards (like a VGA card or a hard-disk drive controller) to communicate with the microprocessor. Similar to a highway system, a bus allows information to travel smoothly from point A to point B. There are two main differences between rival bus standards—the physical connector and the method of data transfer.

The connector for one bus standard is generally incompatible with the connector for another, just as different videotape and audiotape formats (VHS and Beta; 8-track and cassette) will not work in the same machines. The PS/2 line does not accept the same expansion cards as the older IBM PCs, but older cards designed for ISA will work with EISA.

To keep up with the performance capabilities of new and faster microprocessors, EISA and MCA have added more lanes (known as the bits) and exceeded the speed limit (bus speed is measured in megahertz) set by ISA.

What does it all mean? For now, the bus wars shouldn't affect buying decisions, and there's no immediate threat that ISA machines will lose support in the PC market. The emergence of new bus standards is nothing to worry about. In fact, it's good news that translates into lower computer prices across the board. Competition between the different standards is just one of the factors that will drive prices down 10 to

20 percent by the year's end.

The main battle right now is between MCA and EISA. As was originally the case with the VHS-Beta battle for videotape formats, it's difficult to say which standard will come out ahead. The truth is that both standards offer similar performance and will probably survive.

Will ISA die? Yes, but not any time soon. ISA models will continue to have the largest installed base in the PC world for several years, though we'll see fewer new models with this style of architecture.

LOOKING FOR A PRINTER BUFFER

Q. I'm looking for print-spooler software for my PC so I can speed up my computer tasks. Do you have any suggestions?

JUDIE L. UCHITEL
Decatur, Georgia

A. Without a print spooler (or buffer), your computer must wait for your printer to finish printing or receiving data before it can resume its operations. You can solve this inconvenience with software or hardware.

A software utility such as Multisoft *PC-Kwik Power Pak 1.5* (\$130, \$75 discounted) reserves part of your computer's memory as a buffer. When you print, the information is stored in the buffer before it goes to the printer, so your computer can perform other tasks. *PC-Kwik Power Pak* works with conventional, extended, and expanded memory and includes a disk accelerator, RAM disk, screen accelerator, and keyboard accelerator.

Such software solutions, however, may not be the best way to go. A 64K buffer created with *PC-Kwik Power Pak*, for example, can occupy up to 100K of your computer's memory. With today's memory-hungry applications, that could spell disaster instead of relief, especially if you don't have extended or expanded memory.

Hardware solutions, such as external printer buffers and printers with built-in buffers, don't tax your computer's memory.

An external printer buffer is a small box with RAM that sits between your computer and printer. Practical Peripherals' Micro-buffer In-Line is the world's best-selling printer buffer and comes in several memory configurations. The 32K model (\$199) holds about 20 double-spaced pages of text; the 256K version (\$299) holds about 150 pages.

Many dot-matrix printers have small buffers built in (from 80 characters to 80K), with the option to expand the buffer by adding a RAM card. This option can be expensive. Laser printers are designed with memory expansion in mind and can accept as much as 4MB of additional RAM.

NO SERIAL WILL SUIT A SCANNER

Q. I own a Zenith Eazy PC and want to connect a hand-held scanner to the serial port. Can you recommend one?

ROMAN TROCHANOWSKI
Beamsville, Ontario, Canada

A. Unfortunately, we don't know of any hand-held PC-compatible scanners that connect to serial ports, and the Zenith Eazy PC does not have an expansion slot to accommodate the card that comes with a scanner.

According to Logitech, manufacturer of the ScanMan hand-held scanner, the data-transfer rate of a serial port is too slow for scanning. Even if you *could* connect a scanner to a serial port, you would have to scan material slowly, with sketchy results.

One rather expensive alternative is the Ricoh Portable Digital Information System. By adding the IM-A controller/scanner module (\$510) to the main module—the MC50 Portable Copier/Digitizer (\$540)—you can scan a 4-by-6-inch image. The system is available for IBM-compatible and Macintosh computers and will work with a serial port.

If anyone knows of other scanners that work without an expansion slot, please tell us about them. We'll pass the information along. ■

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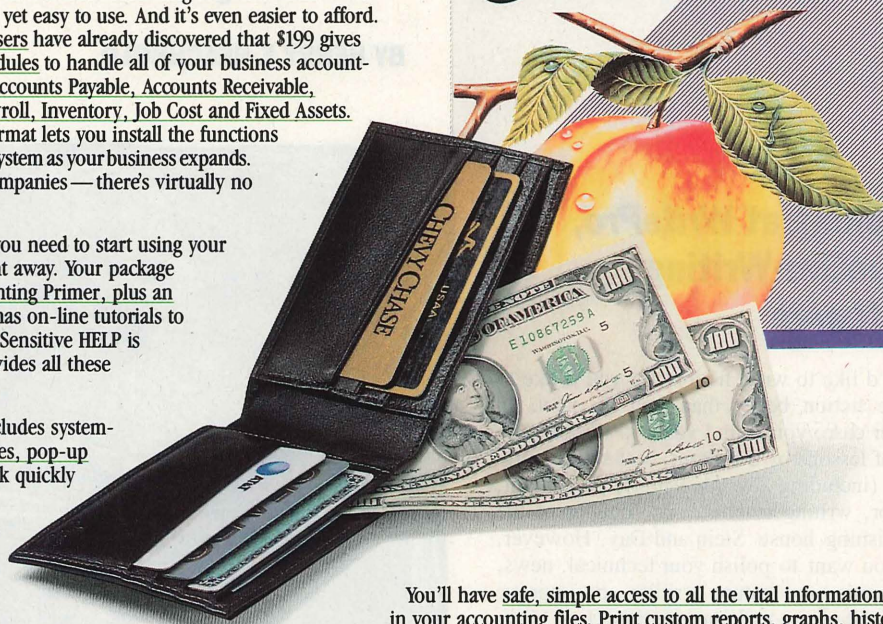
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BY HENRY F. BEECHHOLD

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WritePro doesn't react to your text in the manner of software based on artificial intelligence, for this would be prohibitive in terms of cost and program size—and at this stage of software development, perhaps less



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WritePro

VERSION REVIEWED: 1.2 (Lessons One and Two); 1.0 (Lessons Three and Four)

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; one drive (hard-disk drive optional); DOS 2.0 or higher; 5.25- or 3.5-inch

PUBLISHER: The WritePro Corporation, 43 Linden Circle, Scarborough, NY 10510; (914) 762-1255

PRICE: \$40 (Lessons One and Two or Three and Four)

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

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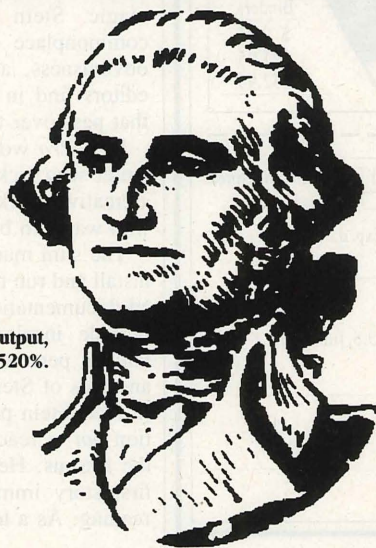
DOES IT WORK?

Sounds pretty nifty, doesn't it? Plug away at the lessons and one day—lo and be-

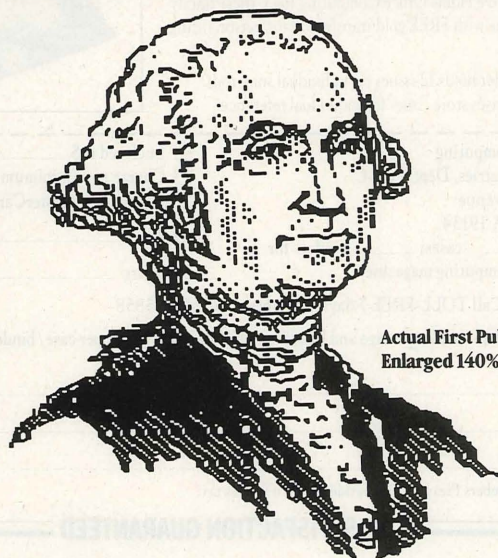
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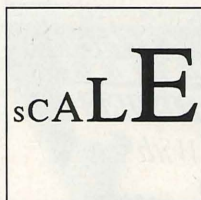
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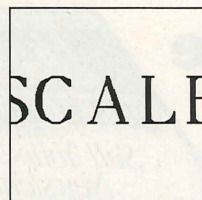
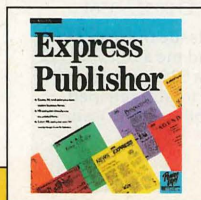
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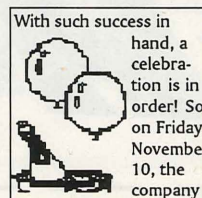
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Sol Stein knows how fiction writing works and has found a way to reduce the process to manageable lessons and rules; yet despite his clever guidance, don't expect magic. Stein cannot overcome laziness, commonplace imagination, clumsy prose, obviousness, and the myriad other defects editors find in the bulk of the manuscripts that pass over the transom every day.

WritePro would most benefit a would-be writer who lacks technique but is driven by a creative spark, or an already skilled writer who wants to break out of tics and habits.

The slim manuals, which tell you how to install and run the program, are all the printed documentation you'll need. They mainly provide inspirational hand-holding, entertaining personal anecdotes about writing, and lists of Stein's rules for fiction writing. In fact, Stein prefaces the rules with a caution *not* to read them before going through the lessons. He wants you to get into your first story immediately and not waste time reading. As a teacher of writing, I concur.

REVIEW FACTORS

This program seems almost as goof-proof as a program can be. Of course, it won't prevent you from writing badly, but that's a level of "error handling" beyond *WritePro*'s claims and scope.

The current version of *WritePro* lacks block editing (cut and paste) and ASCII text export to allow you to use your *WritePro* fiction files with other word processors. According to the publisher, these upgrades are under way and will be provided to registered owners of the program for a "small fee" (as yet undetermined).

Although it's not likely you'll need help in using *WritePro*, you can phone the company (at your cost) from 9 a.m. to 5 p.m., eastern standard time. During a recent call, I learned that more lessons are being developed.

MY NEXT NOVEL

Will the use of *WritePro* result in a spate of Sol Stein clones? Among dabblers—"Sunday afternoon writers"—this may well be the case. Among those with that spark I spoke of, not likely.

Sol Stein's approach to the process of writing fiction is different from my own, yet I have learned a good deal from it and have, indeed, been giving a good deal of thought to what Beth Reilly wants. Come closer. Shhh. "Beth Reilly wants. . . ." Oops, sorry. You'll just have to wait until my novel comes out. ■

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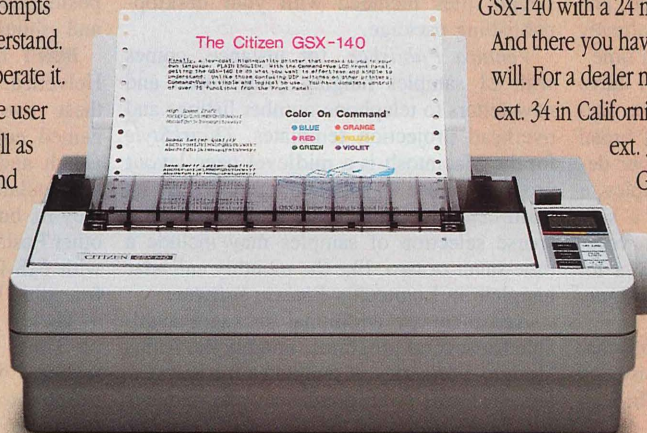
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 **CITIZEN™**

Templates: The Quickest Path To Attractive Pages

BY STEVE MORGENSTERN



I'd be the last person to deny the sensory and psychological satisfactions of cooking a meal from scratch. Measuring and sifting and grating and mixing, producing scintillating smells and fascinating textures . . . the heck with writing this column, I'm going downstairs to bake some brownies!

Ah, but there's the rub. How often does a home-based entrepreneur have time to cook from scratch? My cupboard is stocked with food shortcuts, such as cake mixes and canned soup. In fact, if my accountant weren't so conservative, I'd try deducting the microwave oven as a business expense.

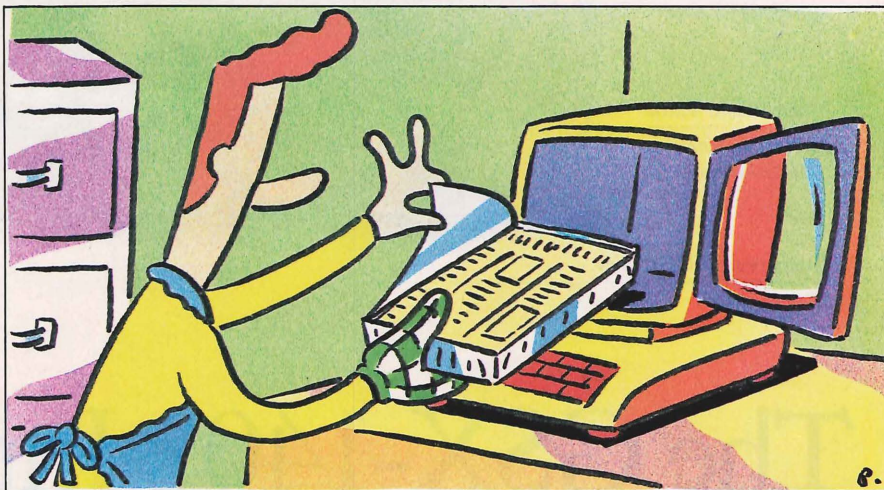
THE ADVANTAGE OF TEMPLATES

Templates are the equivalent of prepackaged foods. Desktop-publishing templates are files consisting of prepared publication pages fully laid out with dummy text instead of actual articles and placeholders substituting for graphics. They may not have quite so much spice and subtlety as layouts prepared from scratch, but they offer these three distinct advantages.

Speed. With the basic layout and type styles set, building a page using templates is almost a fill-in-the-blanks procedure. Yes, you still need to add care and creativity to tailor your copy and graphics to suit the template. Nevertheless, using a template with the basic page elements in place, the columns and ruling guides structured, the running headers and footers already positioned, the typefaces selected and sized, and a multiplicity of mundane matters already managed will cut down on production time.

Design Guidance. The templates I have seen tend toward good, workmanlike layouts, forsaking flash for the sake of broad applicability. If you are unsure of your design sense or even basic design principles, a professionally prepared template is a safe place to start. For most print jobs, workmanlike works well, and it's usually a lot better than what an inexperienced designer might concoct from a blank page.

Consistency. One of the first signs of amateurish desktop publishing is inconsistency from page to page or issue to issue. Through



ignorance or carelessness, the desktop dufer uses different margins on different pages. There are rules separating columns of text on one page and not on another. There is a wide gap between a picture and its caption on the first page, and barely a hair's breadth left between them on the last page.

The list goes on *ad nauseum*, and the net effect is a very poor impression. I'd rather see an unimaginative design executed consistently than a layout with some eye-catching elements but a general disregard for uniformity. A template imposes structure, so you really have to go out of your way to muck it up.

You may already have a stock of templates at your disposal in the form of the sample files included with your desktop-publishing package.

Ventura Publisher, for instance, comes with 21 samples ranging from books and newsletters to telephone-number listings and overhead projection templates. *QuarkStyle* for the Macintosh is a midlevel page-layout program whose 70 supplied templates are its main claim to fame. Even programs with a sparse selection of samples may include a time-saver or two, like the monthly calendar template in Logitech's *Finesse* software.

And there are additional packages available for several programs, notably the Aldus *Designs For* series of templates for newsletters, business correspondence, and manuals for *PageMaker* and the *Business Template Kit* of 20 designs from the publishers of *PFS:First Publisher*.

TEMPLATE DO'S AND DON'TS

Once you have your templates, how should you work with them? Here are some do's and don'ts to guide you.

DO think carefully when choosing a template. Will it suit your specific text and graphic requirements? Better to figure it out before you start building your publication than to fudge your way out of a problem later.

For example, a two-column format may be fine if you are using horizontal graphics, but it won't work well for vertical graphics such as the typical "head shot" portrait. On the other hand, the more columns you have, the more time you'll spend worrying about where paragraphs break and how items are positioned. A two-column layout saves time and should accommodate more text.

DON'T be too proud to use Times and Helvetica. The typical template often uses these two typefaces or their generically named equivalents (Times is often called Dutch and Helvetica, Swiss). These faces are available on virtually any laser printer—they're built into all the LaserWriter and other PostScript lasers and are often bundled with MS-DOS desktop-publishing software for the Hewlett-Packard LaserJet.

There's another reason for the popularity of Times and Helvetica—they have been rendered well for the 300 dot-per-inch (dpi) resolution of the average laser printer. Many typefaces that look wonderful when output on professional typesetting equipment look jagged and unappealing at 300 dpi—sticking

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.

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to Times and Helvetica solves that potential problem. Desktop-publishing cognoscenti may snicker at these familiar typeface choices, but they will get the job done.

DON'T be afraid to experiment. Having praised Times and Helvetica, let me encourage you to try any other fonts you have available when you have the time to experiment. The advantage to working with a template here is that you can quickly remake an entire publication with a new selection of typefaces and base your design decision on an actual printout.

To make this a successful exercise, use controlled experimentation. If the template uses sans serif headline type, try different sans serif typefaces for headlines rather than switching to a serif face. Also maintain the distinction between bold and italic faces presented by the template designer. And stick with the body-text justification used in the original template. There is a major design difference between the look of justified text, which breaks up into neatly contained blocks, and ragged right text, in which each line ends where it ends. In the latter, hair-line rules between columns, boxes, or other devices are sometimes used to neaten up the appearance of the page—devices that would be overkill with most justified text settings.

One more note about altering typefaces—

be sure to make changes consistently. If the original template uses variations of the body-text face for subheads, captions, footnotes, page numbers, and so forth, be sure to change all of these elements to the appropriate variation of the body-text face you have chosen.

DO prepare a character count of the text blocks provided in the template. If you know the amount of space available in advance, you can edit to fit while in your word processor, where the process is relatively simple. Page-layout programs are notoriously slow and clumsy when it comes to major text editing.

DON'T force copy to fit by making major changes in the size or spacing of the typefaces specified in the template. Switching from 11-point type with 12-point leading to 10-point type with 11-point leading may not seem like a big deal mathematically, but it can drastically alter the look. The text blocks appear darker and more forbidding, and the proportion between body text and headline type is thrown off.

DO protect your template files. The best protection for any file is a backup copy, and you should certainly maintain separate backups of your template files on at least two floppy disks. It is also a good idea to protect your template files at the operating-system

level. For DOS users, the attribute (ATTRIB) command lets you set the status of a file to *read-only*—that means you won't be able to write over that file without going back to DOS and changing the attribute again; instead, you save the template under a new name. See your MS-DOS manual for details. Macintosh users can lock a file by clicking the appropriate box in the Get Info window in the Finder.

DO make your own templates. When you have achieved a design you find pleasing, create a template version of it for future editions of the same publication or future projects with similar design requirements. It is a good idea to use nonsense text and blank frames for graphic placeholders in your template instead of simply saving off a copy of a completed page. That way, when you start "filling in the blanks" in your template in the future, the text blocks and graphics you have not already updated will be easier to spot.

A FINAL TIP

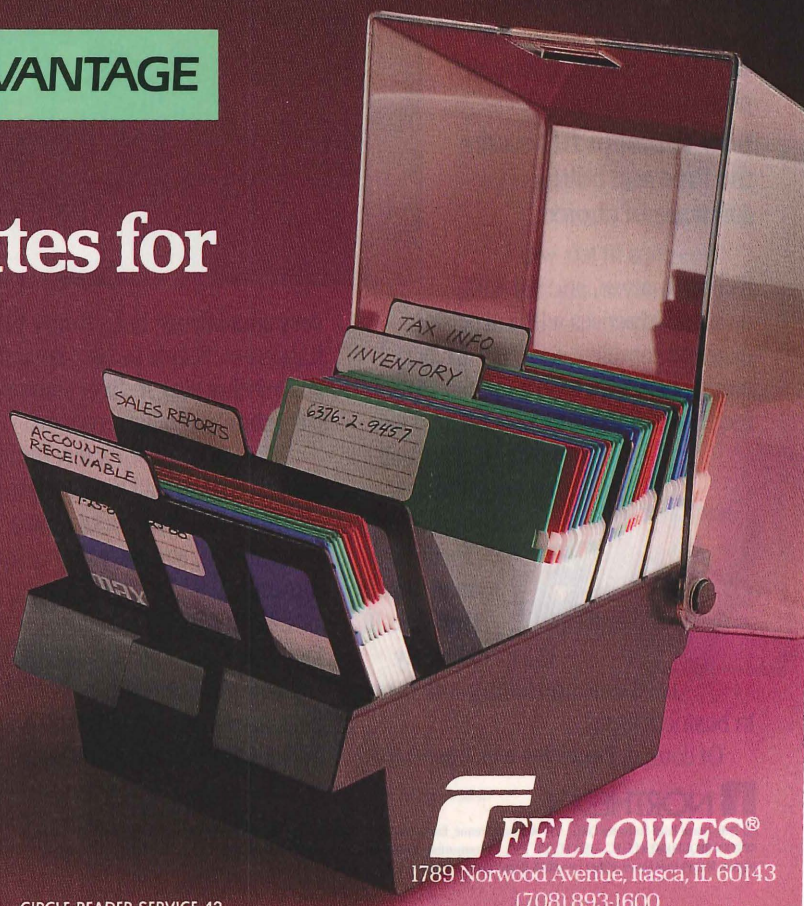
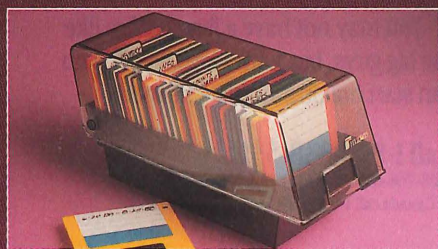
Now that you've saved loads of time using templates in your desktop-publishing projects, I have one final hint to share. When making brownies, add a little brewed coffee to the recipe. It's a subtle change, I grant you, but I like them that way. ■

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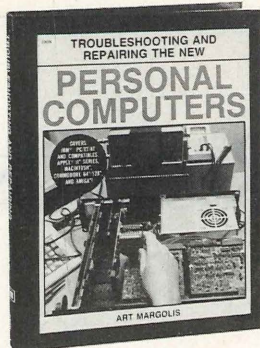
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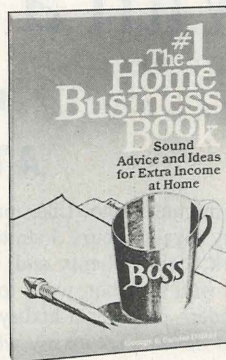
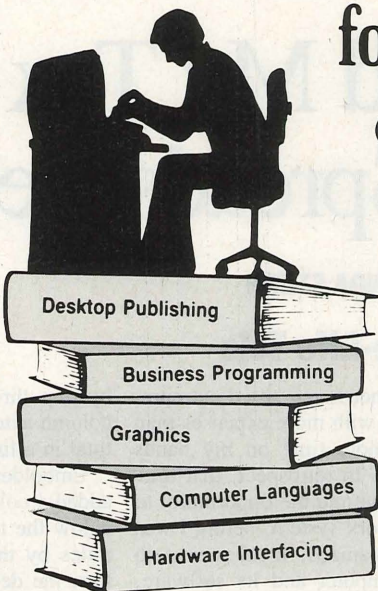
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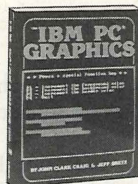


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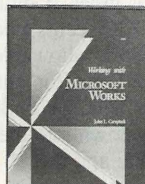
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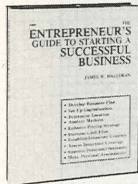
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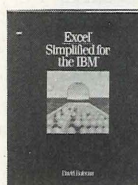
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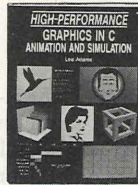
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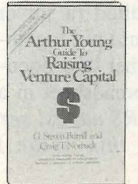
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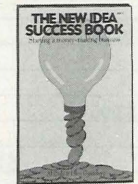
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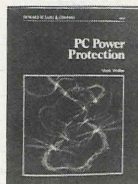
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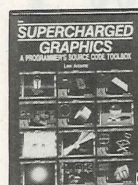
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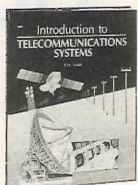
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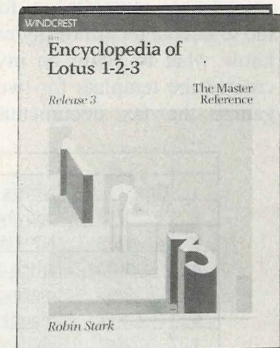
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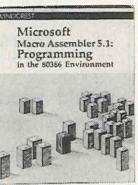
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How I Organized My Tax Records With a Spreadsheet

BY LINDA STERN

A True-Life Tale

The mailman should be here any minute, and today's the day I'm expecting my royalty check. It comes like clockwork, four times a year, boosting my spirits as well as my bottom line. A wonderful reminder—in spendable form—of the time I spent developing a tax-records program that is now distributed nationally as *The Schedule C Accounting System*.

LEARN BY DOING

I'm a freelance writer who can in no way be considered a math whiz or a computer techie. The "program" I wrote is really a spreadsheet template—a form that allows me to keep a record of my expenses so that I know what to claim on my Schedule C. I created the template for two reasons: to organize the tax documentation I knew I

ago. Like many other home-based entrepreneurs, I started out with more expenses than clients and with more time on my hands than work to fill it. In retrospect, that time was a luxury. It gave me the opportunity to set up my whole work system, before I was too busy to get organized. It takes time to learn to use a computer and its software, and getting the equipment before my business was stoked up gave me that time.

My other advantage was a basic knowledge of tax law. I was used to preparing my own taxes and had recently reported on the creation of new tax legislation—the major Tax Reform Act of 1986.

STEP-BY-STEP

I wrote my template with the *Works* user's manual on my left and a copy of the

by-step through the manual, I made each column automatically give me a year-to-date total in a line across the bottom.

Emboldened by my success thus far, I added a column for mileage, and in the cell below the total miles, I multiplied the total miles by the 22.5 cents per mile that was then the deduction allowable by the IRS. I also added a column for entertainment and then two more cells that broke the entertainment expenses down into the 20 percent that is not deductible and the 80 percent that is.

TAKING CONTROL OF MY FISCAL DESTINY

It was a really basic spreadsheet, but it was great for keeping track of my deductible business expenses. Recording them was a simple task. In my original version, each line number on the spreadsheet became the

	A	B	C	D	E	F	G	H	I
1	Date	Notes	Auto Miles	Prof. Serv.	Dues, Pubs	Home Office	Entertainment	Supplies	Phone
2	1/13	copying	2	\$0.96					
3	1/09	NY Times			\$19.50				
4	1/20	lunch at GW					\$21.00		
5	2/03	mailing labels	4					\$37.80	
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7	2/17	copying	2	\$5.50					
8	2/08	wastebasket	4			\$12.50			
9	2/17	cable							\$19.95
10	2/10	magazine	4		\$12.50				
11	2/20	envelopes	12					\$12.38	
12	2/21	calls to NY							\$33.40
13									
14									
15									
16		Totals	32	\$6.46	\$35.95	\$12.50	\$21.00	\$50.18	\$53.35
17									
18		Deductible Miles	\$7.20						

Sometimes a simple system—such as this spreadsheet for tracking Schedule C expenses—works better than a complex one.

would need and to learn how to use the spreadsheet function of Microsoft *Works*, the integrated software package I had just purchased. It was my first experience with any computer spreadsheet.

I created the template in the early days of my freelance business, almost four years

ago. Internal Revenue Service's Schedule C (the form that all sole proprietors must file) on my right.

Basically, I set it up like this: The first column was for dates, the second was for notes (see figure). Then I created a column for each category of deductible expense in the Schedule C that I thought I would use. There were columns for dues and publications, freight, home-office expenses, repairs, supplies, and so on. Going step-

identifying number of the expense. Unfortunately, this method didn't let me insert an expense or sort by date, but it did just what I needed. I would label my canceled check or receipt with its line number and pop it in a folder. Should I ever get audited (a shiver just ran down my spine), I could put together all of my receipts by number and document each line item on my spreadsheet in a few moments. (For more on IRS audits, see "Winning Tax Tips" in this issue.)

LINDA STERN, a professional writer who lives in Takoma Park, Maryland, wrote "Braving a Jungle of Details" in last month's issue.

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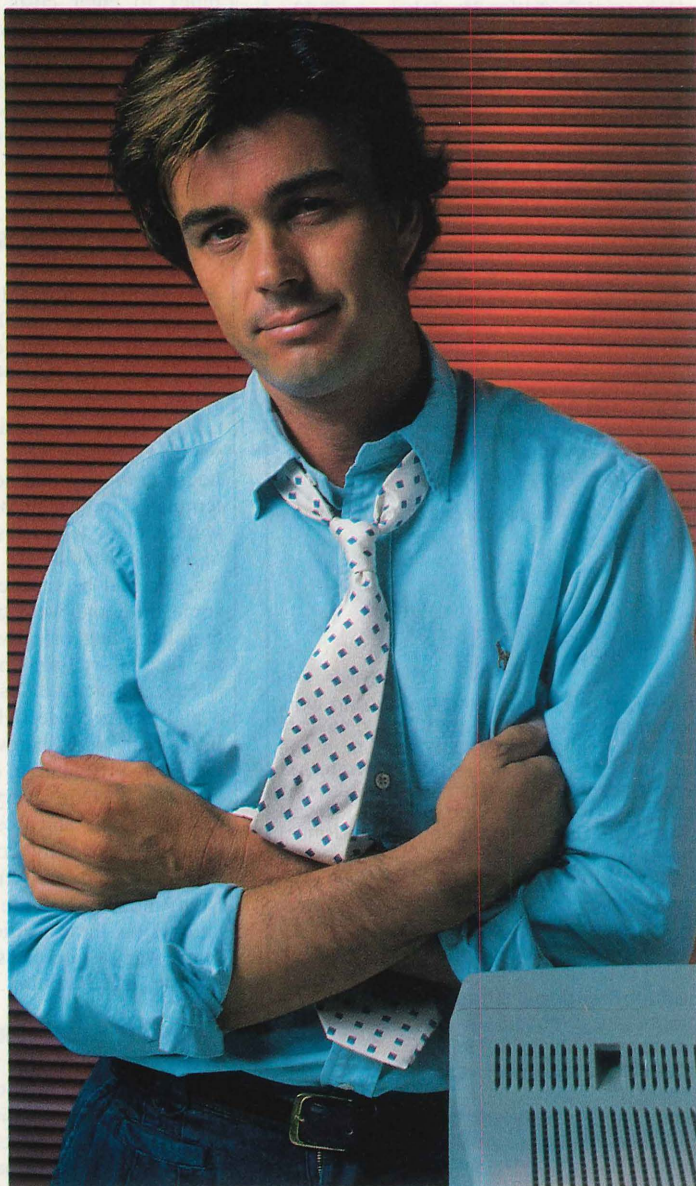
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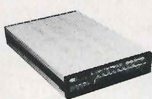
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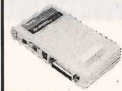
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SOFTWARE SOLUTIONS

The automatic-totals line was especially gratifying. After entering each expense, I could check my year-to-date tax-deductible expenses. And having a ballpark figure of my deductions throughout the year made preparing estimated taxes far less of a burden. Since entering expenses was so easy, an almost fun break when my brain was overtaxed by more creative work, I was quick to enter costs and didn't lose too many deductions to the I-was-so-busy-I-forgot-to-record-it-and-now-I-don't-know-where-it-is trap. It also helped that I was using an integrated package such as *Works*, since I didn't have to quit one program and load another to move from word processor to spreadsheet.

SELLING MY SPREADSHEET

"You know," my husband said to me one evening, probably to deflect another speech on how much I liked using my spreadsheet, "you ought to send that spreadsheet to Ray Heizer and see if he wants to sell it."

Ray Heizer is president of Heizer Software, a Pleasant Hill, California, clearing-house company that sells *Works* and *Excel* templates for Macintosh and PC users, as well as other templates and *HyperCard* and *SuperCard* stacks. As registered *Works* users, we had been receiving his catalog for some time and were pleased with their tax templates that effectively reproduce all of the federal tax forms most filers need.

Heizer Software sits somewhere between a mail-order house (where you get 25 public-domain and shareware programs on a disk for \$10) and a commercial software company (where everything you buy is a new program and costs plenty). Heizer's templates generally cost between \$10 and \$25 each and are written by individuals from all walks of life. Many of them are tailored to the specific fields of their authors, such as architecture, education, engineering, and investing.

MAKING IT WORK FOR EVERYONE

If I knew then how relatively unsophisticated my spreadsheet was, maybe I wouldn't have submitted it. But Heizer found merit in the concept, looked around at all of the customers he had who were sole proprietors, and asked me to make some modifications. In fact, before even sending it to him, I had expanded the template to include all of the categories that I didn't use on my personal Schedule C, such as commissions, depletion, and bad-debt write-offs. I also added a totals cell for each column and the inventory calculations that a full Schedule C would call for.

Heizer asked me to move the total column from the bottom to the top of the spreadsheet, and to add more columns for notes

and memos, including one for an identifying number. That was a decided improvement, because it meant that a user could sort the spreadsheet (to put all advertising expenses together, for example) without the line numbers getting out of order.

Heizer also translated the spreadsheet into the *Excel* formats—for both the Macintosh and PCs. In both *Excel* versions, a macro will automatically post an expense to the correct column, so the scrolling right and left that I had to do when I entered an expense in *Works* was eliminated.

Then he called me with an agreement stating that I provide technical support for the *Works* version, which I wrote on the Macintosh, and get 50 percent of every sale. For the other three adaptations, Heizer provides technical support and takes 60 percent of each sale. In addition, he takes care of all marketing and fulfillment. It's a nonexclusive pact, so I could sell the template elsewhere if I wanted. The agreement sounded fair to both of us, so we signed a contract, and he put my template in his catalog. (For a copy of the *Heizer Software catalog*, call [800] 888-7667 or [415] 943-7667.)

WHY SHOULD YOU CARE?

Now I'm an official software author with a "best-seller" designation and a steady flow of nifty royalty checks. And I'm still keeping my tax records straight, though I admit I prefer to use what's basically the pared-down version I started with rather than the souped-up system that Heizer sells. Why? It's smaller and quicker, and I don't need all the columns, but I did keep the ID numbers and the totals at the top.

There are two lessons that other computer users can take from my story. If you want to run your business more efficiently and save time in the end, take the time to learn the functions you have in your programs.

And believe that what you do has value—if it's worth something to you, it's probably worth something to someone else, too. If you've tailored your software to fit a specialized field, or if you've just taken the time to input data that others might be able to use, consider marketing your work as a sideline to your regular business. (I'm also making money on a database of newspaper editors that I compiled, but that's another story.)

When you start promoting your own product, you never know what might come back in the mail.

EDITOR'S NOTE: And readers, if you've found your own software solution to some basic business task, send us a letter—our other readers might want to hear your tale, too. Write to Software Solutions, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

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DesignCAD 3-D supports more than 400 different peripheral devices, including more than 250 printers (dot-matrix, laser printers, color printers, etc.), 80 plotters, most mice and digitizing tablets, and a wide variety of graphics cards and displays.

Once again, American Small Business Computers has proved that you don't have to spend a lot of money to get quality software. DesignCAD 3-D provides features such as Shading, Solid Object Modeling, Hidden Line Removal, and Cross Sectioning capability. All for only \$399. No other 3-Dimensional CAD system can come close to providing the price/performance of DesignCAD 3D.

VERY EASY TO USE!

DesignCAD 3-D has consistently proven itself to be faster and easier to use than most competing CAD systems. In a national competition DesignCAD 3-D was matched in drawing speed by only one other CAD system. It cost \$3,000. DesignCAD 3-D was able to perform a given drawing in nearly half the time as packages costing up to \$5,000.

Customers frequently remark at how quickly they are able to learn DesignCAD. Many also comment about the power of DesignCAD.

Dr. Stephens of NASA states: "One of the things I like best [about DesignCAD 3D] is that I can pick it up and go with it." Dr. Stephens, who evaluates and recommends software for purchase by NASA, says software must meet certain criteria: "One, it must work. Two, it must be user friendly and easy to use. I push it [DesignCAD 3D] as far as I can push it. We're not using it as a toy down here, and I resent the fact that some people believe that a product's ability is substandard because of its price."

Jan Hallett, an engineer at Allied Chemical states: "We use it extensively here and are really sold on it. Plant layouts, pipe runs, fabrications, along with a lot of other things are drawn and designed. I've got AutoCAD, but very seldom if ever use it anymore."

PC MAGAZINE SAYS...

DesignCAD 3D, the latest feature-packed, low-cost CADD package from American Small Business Computers, delivers more bang per buck than any of its low-cost competitors and threatens programs costing ten times as much. For a low-cost, self-contained 3D package... DesignCAD's range of features steals the show."

HOW DO I GET ONE?

DesignCAD 3-D and DesignCAD 2D are available from most retail computer stores, or you may order directly from us. If you have questions about which program to purchase please give us a call. All you need to run DesignCAD 3-D is an IBM PC or compatible computer with 640 K RAM memory and a hard disk. Both products support most graphics cards, printers, plotters and digitizers. Free information and a demo disk are available.

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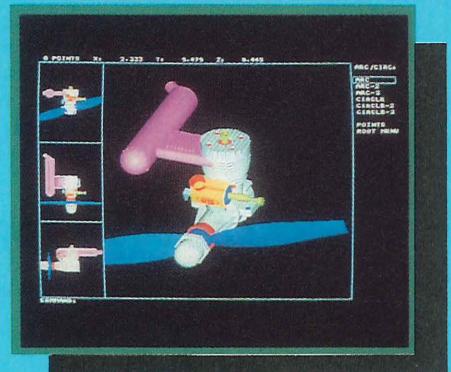
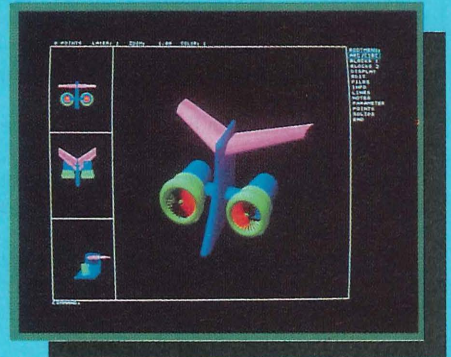
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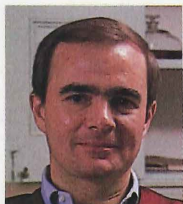
BYTE MAGAZINE SAYS...

"At \$399, DesignCAD 3D was the least expensive package we saw, yet it was one of the more powerful. ..Don't be fooled by the remarkably low price, this program can really perform!"



Get Your Share of Government Contracts

BY ALFRED GLOSSBRENNER



What would you say if I could show you a way to sell your product or service to the biggest customer in the country: the federal government? I know. It sounds like a phony pitch or an FBI sting operation. But a good number of the government's "procurement actions" are set aside especially for small businesses. The federal government buys *everything*—from shoelaces to soda pop, from consulting to cleaning services.

The challenge is finding out what Uncle Sam wants to buy—or, more specifically, just which of more than 4,500 government agencies are in the market for what you have to offer.

That's a daunting task, to be sure. But the government makes it much easier than it first appears.

COMMERCE BUSINESS DAILY

The key is *Commerce Business Daily* (CBD), an 8.5-by-11-inch booklet produced by the U.S. Commerce Department. This 30- to 100-page publication contains a daily list of all proposed procurements of \$25,000 or more by civil and military agencies. It also contains lists of contract awards, announcements of surplus property for sale, and foreign business opportunities.

So far, so good. The information you need is available—on a daily basis, no less. Unfortunately, there's a problem, as you will quickly see should you take the Commerce Department's advice and go to your local library to look at a sample issue. The information as presented in CBD is all but indigestible. Indeed, with its whisper-thin paper and exceedingly fine type, *Commerce Business Daily* stands as a shining example of just how impenetrable a government publication can be.

ALFRED GLOSSBRENNER is the author of *Alfred Glossbrenner's Master Guide to FREE Software for IBMs and Compatible Computers* (St. Martin's Press, New York). He can be reached at (800) 628-7637.

Commerce Business Daily, available on Dialog, lists all proposed procurements of \$25,000 or more.

DIALOG DELIVERS

But you don't have to suffer these inconveniences. *Commerce Business Daily* is available on Dialog as File 195. Given the density and importance of the source material, it would be hard to imagine a more perfect application of electronic information retrieval than this.

In the first place, the information is current. File 195 is updated daily, on the evening before the print version becomes available. The update is normally on-line by midnight eastern time. No need to wait for the afternoon mail.

Even more important, the information is searchable. That means you can zero in on just those RFPs (requests for proposals), IFBs (invitation for bids), or RFQs (requests for quotation) that interest you. No need to go blind poring over pages of fine print. There are nearly 20 classifications of services, including one that covers "photographic, mapping, printing, and publication services." Other classifications include medical, architectural, transportation, equipment maintenance and repair, and training.

Each procurement record in the database contains an abstract describing the item or service desired, the address and person to contact, and often, the estimated price range. There will be a note if the contract has been set aside for small businesses.

Your search can be as broad or as narrow as you like. You can pull up every proposed procurement in the government applying to

your line of work. Or you can limit items to just those jobs taking place in a particular city or state (or group of cities and states) that have been set aside for small businesses. Or you can calibrate your search some other way.

What's more, once you've developed a search command that pulls up the information you want, you can order Dialog to automatically run it each day the CBD database is updated. The next time you sign on, the results will be waiting for you as a Dialog or MCI Mail message. Dialog charges \$1.50 a day for this service. Weekly automatic searches are \$5.95.

Since CBD is a government database, Dialog's connect time charges are low. In fact, depending on the packet-switching network you use, it works out to a little more than \$1 a minute. Dialog's Starter Package A for new subscribers sells for \$90 and includes \$100 of free connect time.

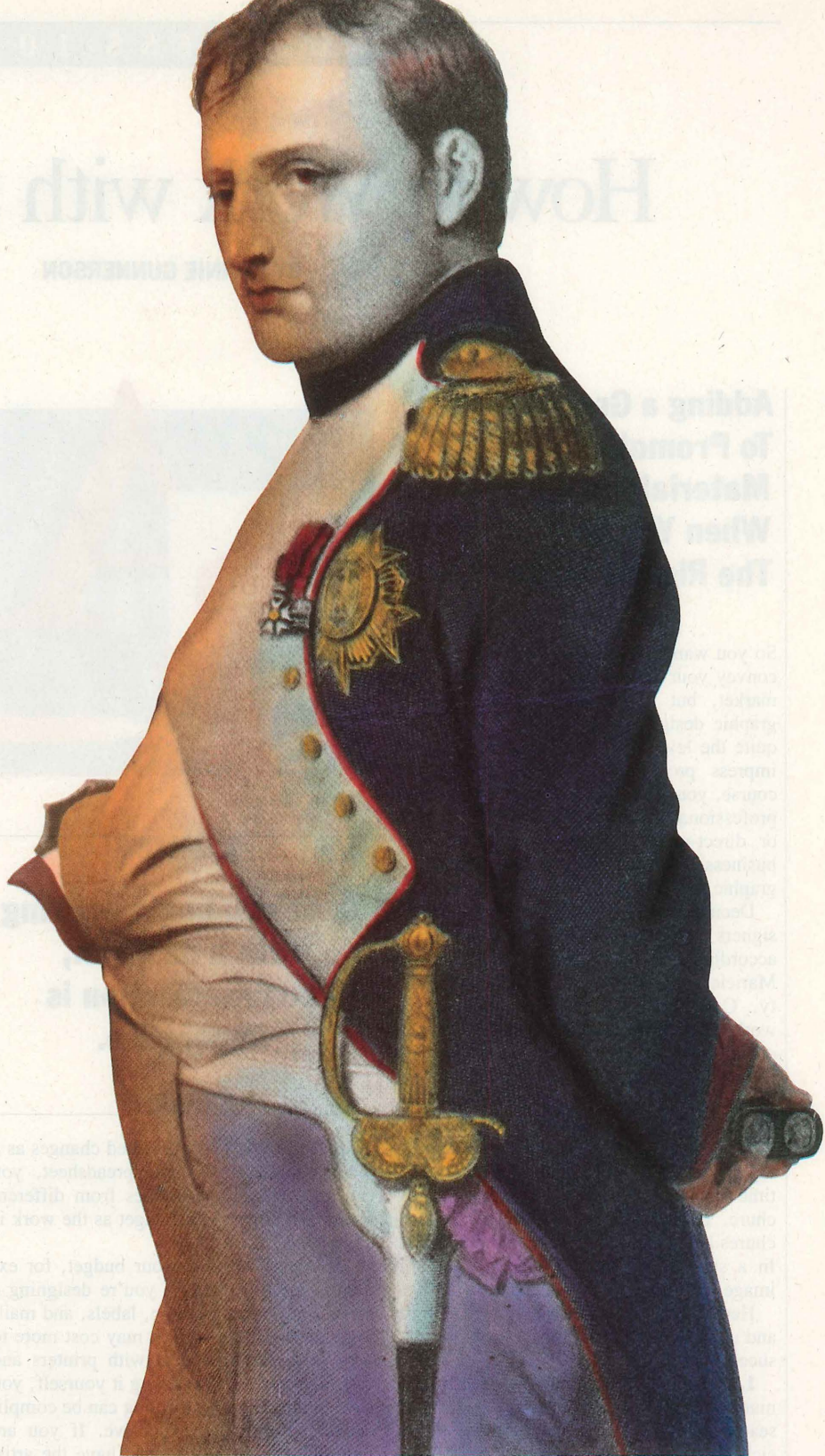
TIPS ON GETTING CONTRACTS

The final hurdle is properly preparing your response to an RFP or other procurement notice of interest. As you would expect, there are certain requirements of form and format. Fortunately, numerous publications, such as *Doing Business with the Federal Government* (\$2.75; 022-003-01162-5) and *Women Business Owners: Selling to the Federal Government* (\$3.75; 045-000-00247-1), are available from the U.S. Government Printing Office.

The electronic version of *Commerce Business Daily* has made government procurement plans and requests accessible to even the smallest business. Today, regardless of your product or profession, there's simply no reason not to get your fair share of government contracts. ■

COMPANY INFORMATION

Commerce Business Daily, (202) 377-0633; Dialog Information Services, Inc., (415) 858-3810; U.S. Government Printing Office, Superintendent of Documents, (202) 783-3238.



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How to Work with an Artist

BY RONNIE GUNNERSON

Adding a Graphic Touch To Promotional Materials Is Easy When You Find The Right Designer

So you want to be in pictures. You want to convey your sales message visually to your market, but the closest you've come to graphic design is spin art on T-shirts. Not quite the level of sophistication required to impress prospective clientele (unless, of course, you're selling T-shirts). If you need professional-looking brochures, newsletters, or direct-mail packages to promote your business, you may want to hire a freelance graphic designer.

Deciding when to turn to professional designers "is a matter of common sense," according to Suzanne Maricich of Suzanne Maricich and Associates, an Orange County, California, advertising agency that works for prestigious southern Californian clients and national clients. A realtor, for instance, may need nothing beyond a one-page typed flier, as long as it's neat, clean, accurate, and gets the message across, says Maricich. "When that realtor is appealing to an affluent clientele, however, it's time to hire a professional to design a brochure. Even if only a handful of the brochures are used, every one could be crucial. In a subtle way, they create a successful image, and success begets success."

Here are several tips on how to choose and use a graphic artist for the best possible success.

1. Know your budget. Know exactly how much you can spend before you begin your search for a graphic designer, advises Maricich. Request written estimates from designers you interview for a particular project, bearing in mind that estimates generally will be 10 percent more or less than the final costs (estimates are virtually worthless,



Once you begin working with a designer, communication is imperative.

however, if you make repeated changes as a job progresses). With a spreadsheet, you can keep track of estimates from different artists and adjust your budget as the work is completed.

Include all costs in your budget, for example, printing, and, if you're designing a direct-mail piece, postage, labels, and mailing expenses. Although it may cost more to have your designer deal with printers and typesetters rather than doing it yourself, you save in the long run. Printing can be complicated and mistakes expensive. If you are unfamiliar with the process, have the artist check blueslines (the equivalent of photo proofs) and handle the press check (verification of colors and alignment as the piece comes off the press).

2. Screen artists carefully. Once you know what you can afford, you can begin your search. Start by networking, suggests Maricich. Referrals from business acquaintances

usually produce the best results, she says. You might also try contacting a designer whose work you've seen and like. To find him or her, call the company for which the design was done and ask for the advertising, marketing, or public-relations manager. One of them should be able to give you the information. If all else fails, turn to your yellow pages and look under the heading Graphic Designers.

Meet with at least three artists to review their portfolios, but discuss your budget with them on the phone beforehand. No matter how awkward that may seem, it saves both of you time and frustration if your financial expectations are worlds apart.

When you do invite an artist to interview with you, be sure he or she brings samples relevant to your planned project. If you're looking for someone to create letterhead, for instance, ask to see letterhead the artist has already designed.

When you meet, "be sure you know what you're looking at," warns Maricich. Sometimes the artist is a paste-up person who has executed another designer's plan. Ask outright whether or not the artist was responsible for the concept behind the work he or she shows you. "Also, be sensitive to non-verbal messages when you are interviewing artists. Sometimes, for example, you can sense whether or not someone is a procrastinator or otherwise difficult to work with," says Maricich.

3. Give the artist creative freedom. Carefully describe the audience you want to reach and the message you want to impart, show your artist samples of design concepts you like, then let him or her create.

"The worst thing in the world you can do with an artist is design everything yourself," says Maricich. "You cut off the very talent you hired the artist for. You even eliminate your options because artists often conceive solutions you would never have envisioned."

Once you begin working with a designer, communication is imperative. "Establish checkpoints along the way so no one is running off in the wrong direction," advises Maricich. Ask to see actual colors and typefaces the artist plans to use. "Every typeface has a very strong personality. The one your artist chooses could be your least fa-

RONNIE GUNNERSON, a contributing editor, wrote "How to Speak in Public with Confidence and Style" in the February issue.

vorite," says Maricich. The same is true of colors. Primary colors that appeal to children may have less impact on adolescents than hot colors, yet hot colors would probably be the last choice for a brochure targeting senior citizens.

4. Remember that perfect means professional. As type is delivered to you, be sure you proofread it carefully. "It is your responsibility, not the artist's, to proof what comes from the typesetter," says Maricich. "Just one wrong letter can create an entirely different message, so you must be sure to proof carefully. Have at least two other people proofread as well."

One proofreading tip that works: Hold a ruler under each line as you read. The ruler focuses your eyes on one line at a time and greatly improves your chances of catching errors. And if you use spelling, style, and grammar checkers before you send material to the typesetter, you have a better chance of getting accurate work back.

5. Approve the design in the early stages. Be sure to ask your designer for comps before a job is done. Comps are true-to-life renderings of a finished piece. You will pay for them, so be sure to include them in your request for an estimate. They're usually not cheap, but they're worth the cost.

A word of caution is in order, however. If you reach the comp stage and find you don't like the piece, you could be in for trouble. "You are dealing with ego, and it could get messy," warns Maricich.

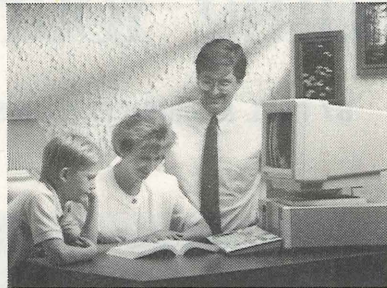
What's more, you must pay for work completed, including the comp, so expenses will skyrocket if your designer has to start over. If you find yourself in such a situation, the best solution is to cut your losses early and hire a new designer. Such a possibility underscores the need to communicate at regular intervals and, even more, to shop carefully for a good designer.

6. Observe deadlines. Give yourself good lead time, advises Maricich, and give your designer lead time as well, but never assign a job without a deadline. Until you're comfortable working with an artist, your best bet is to assign a deadline well ahead of yours. If you need the artwork by March 10, set a drop-dead deadline of March 1 for the artist. That way, if the artist's computer crashes or some personal emergency comes up, you can still get the work by the time you really need it.

7. Pay as you go. Finally, be fair, but not foolish, with your financial arrangements. "Never pay an artist the entire amount upfront," warns Maricich. "It's fair and square to pay one third at the start, one third midway through a job, and one third upon completion."

Just remember, your contract with an artist is a business agreement. Mutual respect and fairness prevail. ■

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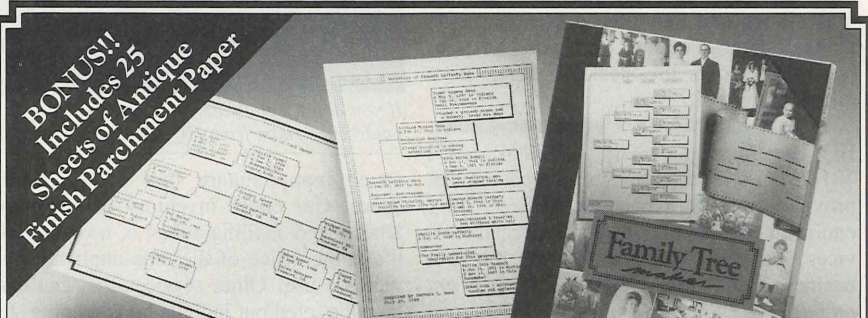
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Expand Your Business Without Expanding Your Office

BY PAUL & SARAH EDWARDS



Last month we talked about ways to squeeze more office space out of your home. It seems that you can always find more room somewhere and somehow, but there is a limit. What if you

want to expand your business? What if you need to hire employees? Does that mean you finally bite the bullet and move into commercial office space, thus forsaking the comfort and convenience of working from home?

Of course not! We've seen some remarkable innovations developed to preserve the luxury of working from home. Here are eight possibilities to consider before you break down and move the office out. Even if none of these options will work for you, just mulling over the measures others have taken may help you.

1. Rent an office in a professional suite. HQ Headquarters ([800] 227-3004; [415] 781-7811) is one of several companies that provide you with a business address, fully equipped conference rooms, clerical services, and telex and fax numbers for your business cards. (See *December's Up Front* on page 14.) You can use these professional suites full-time, part-time, or only occasionally. Such companies give you an address (sometimes necessary to get a license), enable you to avoid hiring additional personnel, and provide a place to meet clients.

2. Rent a storage locker to archive files and store infrequently used equipment and stockpiles of supplies or merchandise. Most communities have storage facilities in convenient locations. The cost is considerably less than that of renting office space in a commercial building.

3. Contract out various tasks. For instance, we've contracted out for tape duplication and mailing services, and thereby



If you don't feel comfortable meeting business contacts at your home office, you can rent a conference room from HQ Headquarters, a firm with office suites across the country.

saved many square feet of home-office space. Our entire inventory of audiotapes, labels, and mailing tubes is now stored at the home office of the tape-duplication service we use. Other services that can easily be contracted out include bookkeeping, telephone answering, secretarial, and telemarketing services.

4. Hire employees who will work out of their homes. Telemarketers, designers, writers, sales personnel, bookkeepers, even secretarial and administrative staff can work for you from their own homes. With call forwarding, your secretary can answer calls when you're not available. You can transmit written materials by modem and fax. You can supplement weekly in-person meetings with daily calls to coordinate activities.

5. Move to a new home. If you consider the monthly cost of renting additional office space, you may actually save money by buying or renting a larger home. And this time you can make your office needs a primary consideration in selecting the home. We've moved twice and each time we got better at fulfilling our expanding office needs. In our first house, we underestimated the need for storage space; in our second house, the need for us to have separate

offices. The third time, we got both.

6. Rent a second apartment or buy a second condo to house your office. You will instantly double your space. The cost of residential property is often lower than that of commercial property, and your commute will be a short walk. An added advantage to this option is that it will be easier to maintain a separation between your business and personal space.

7. Raise your prices. You can continue income growth without adding clients, personnel, or space.

8. Refer, license, or franchise. Rather than expanding, consider referring business you can no longer accommodate to a competitor in exchange for a referral fee. When you consider that many businesses spend up to 40 percent of their total revenues on marketing, a referral fee is not unreasonable. Licensing, or selling franchises in other geographical areas, is another way of expanding your income without necessarily expanding your space.

Some of these options may seem far-fetched, but we've seen every one of them work. It seems that many people who've worked from home simply never want to go back to a "real" office. ■

PAUL & SARAH EDWARDS are the authors of *Working From Home, Everything You Need to Know to Live and Work Under the Same Roof*. They are cohosts of "The Home Office Show," which is broadcast Sunday night on the Business Radio Network, and run the *Working From Home Forum* on CompuServe (GO WORK).



"Quicken slashed my tax preparation time and cost by 70%..."

—K.C. Branscomb, President, IntelliCorp

"As tax time approached, I used to get this knot in my stomach. I'd dread getting all my receipts and records together for my accountant. I had this nagging fear that I couldn't find all my backup material. But not any more, thanks to Quicken.

It used to take me several weeks to prepare for my taxes. Now, with Quicken, I'm done in a few hours. And since Quicken does all the organization and calculations, pulling together the data for my personal Form 1040 and Schedules A, B, C and D is simple. What's more, my accountant's bill is 70% less because my Quicken records are so complete.

"When I was audited, Quicken saved me"

I used to worry about being audited. When it actually happened, boy was I nervous! Not because I'd done anything wrong, but because I knew I'd need very detailed records. So, I went into the audit armed with Quicken, both in reports and on my laptop. Sure enough, the IRS agent questioned every expense—every trip I took, every hotel room I stayed in. Thanks to Quicken, I responded to each inquiry quickly and easily. My accountant said that being so organized made

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"Quicken automatically organizes personal and small business finances"

Before being president of IntelliCorp, I ran my own consulting business. So, I know how Quicken saves time with *both* personal and business finances. You just enter transactions, and Quicken *automatically* puts them in order and does the math. It captures your data in one place, and creates valuable reports like budgets and net worth statements in *less than 3 seconds*. For small businesses, Quicken creates P&Ls, Cash Flows, Balance Sheets, and other reports.

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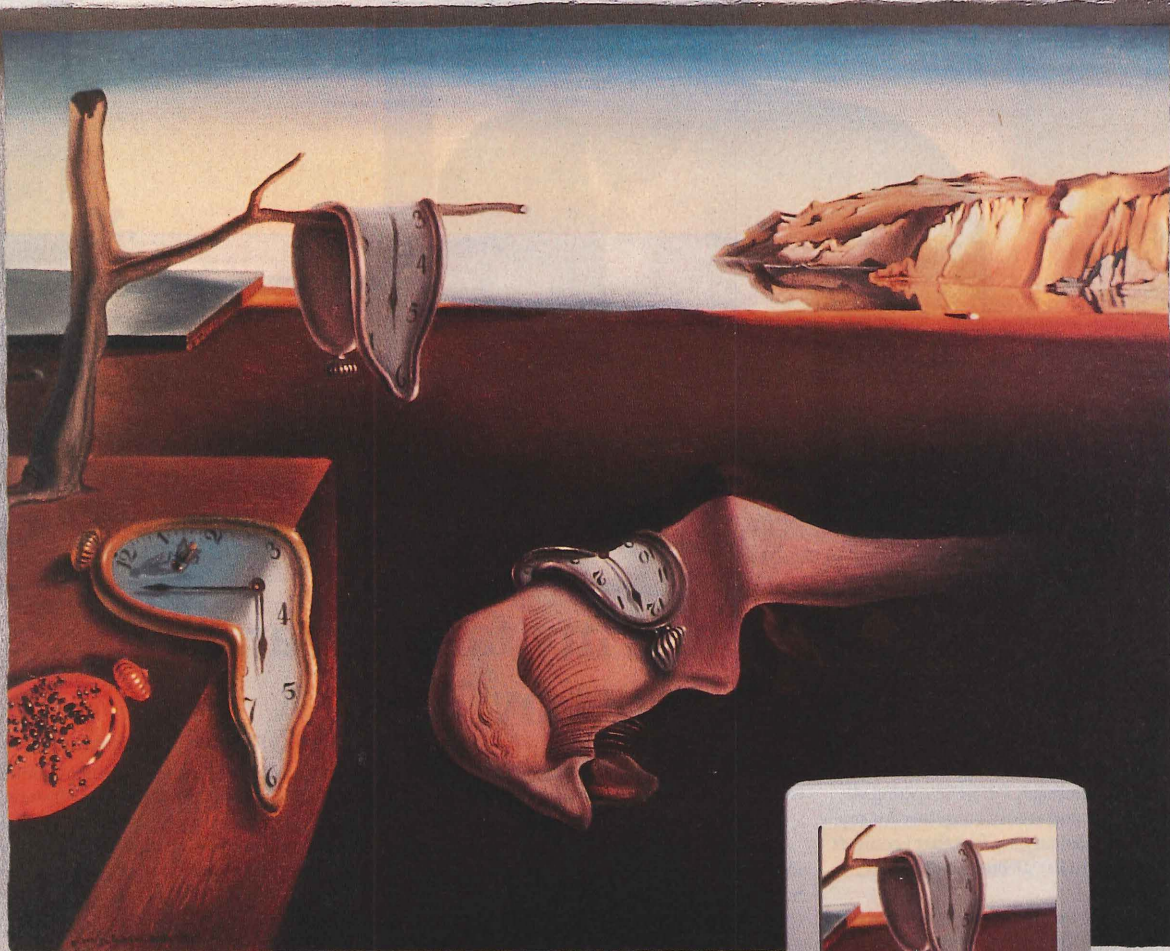
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- Write checks, pay bills, and reconcile accounts.
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- Produce financial reports: Cash Flow, Profit and Loss, Balance Sheet, Job/Project Report, A/R, A/P and more.
- IBM Version exports to ASCII, Lotus® Mac to Excel®, SYLK, Text, HyperCard™



"Quicken not only saves me time, but it helped me come out ahead in an IRS audit!"





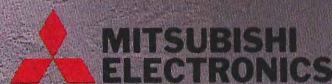
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CIRCLE READER SERVICE 48

Winning Tax Tips

Does running a business from your home increase your chances of an Internal Revenue Service audit? Unfortunately, yes, and on two counts: On the average, self-employed people who file Schedule C deductions get audited more than twice as often as other taxpayers. And if you deduct your home-office space—an especially sensitive area for IRS examination—that, too, lowers the odds of escaping an audit.

That's why it's particularly vital for home-based entrepreneurs to complete their tax returns as honestly and accurately as possible, and have supporting documentation for all deductions. If you do, and the IRS calls your number for an audit, it won't be bad news. And you can feel secure in deducting every cent you're entitled to.

Preparing taxes needn't be bad news either. In the pages ahead, you'll learn the best ways to deal with tax returns as well as audits. Our collection of articles, charts, and graphics includes

- Tips for Avoiding and Handling an Audit
- The Home-Office Deduction
- Finding a Good Tax Preparer
- Free IRS Publications to Order Now
- Tax-Preparation Software for Non-Accountants
- Electronic Filing: Is It Worth It?



Beating the IRS Game of Chance

Tips for Avoiding and Handling an Audit

BY GAIL RUTMAN

When it comes to preparing their taxes, a lot of people feel like they're always taking chances. If I don't do this deduction right, they think, or if I even bother to take that deduction, the IRS will audit me. Unlike church bingo players or high-stakes gamblers, these taxpayers believe they can never win, only lose. So they don't take deductions that might be legal, but that the IRS tends to examine closely.

Does this sound familiar? Planning and preparing your taxes should be a rational process, but the fear of an Internal Revenue Service audit inhibits many people. It doesn't need to. The audit risks you take on your return can be minimized through accuracy, honesty, a good tax preparer or tax-preparation program—and the various tips included in the following pages.

ELUDING THE WILY AUDIT

Ancient Egyptian bureaucrats punished their tax offenders with public floggings. IRS penalties, though not as humiliating, can be nonetheless painful. The IRS has the power to assess you an additional 25 percent tax on unreported income. After this "substantial understatement penalty" is added to the owed taxes and accumulated interest, it can transform an assertive tax gambler willing to take chances on an audit, into a meek taxpayer without a deduction to his name.

Unfortunately, even a moderate stance on your tax return cannot guarantee escape from audit selection. As you'll see in the rest of this article, numerous, often seemingly innocent, items can trigger an audit. Audits of returns filed for 1989 are expected to reach one million. Although computers initially flag tax returns for audit, IRS personnel intercept most of these returns for subjective analysis. (See boxes "Are You an Audit Target?" and "How the IRS Audits Returns" for a description of the process and "Your Audit Odds" charts, which graphically show the probabilities of getting snagged.)

While you can't control an audit selec-

tion, there are still steps you can take to lessen your chances of being audited—without being meek about your taxpaying tactics. By presenting audit-sensitive items on your return persuasively and clearly, you can influence IRS analysts favorably, reducing your chances for final audit selection.

My core advice can be summed up as follows: Attach supporting documents to your tax return for any item—especially a deduction—that is obscure or seemingly out of proportion to your income. IRS personnel do not require these extra materials, but the more information you give them now, the less likely it is that they'll need to talk with you later.

SUPPORT DEDUCTIONS WITH DOCUMENTATION

The following tips detail how to put my basic idea into action.

Tip #1: Share your home-office calculations with the IRS. Deducting a portion of your household expenses for your home office—such as mortgage interest or rent, utilities, and repairs—can light an audit fuse. To avoid an explosion, attach additional explanations and documentation to your return. Detail your calculations, for example, in determining the percentage of your home occupied by the office. If you're an employee claiming a home-office deduction, include a statement from your employer stipulating that you are required to work at home.

Tip #2: Indicate your employer's expense policy. One California university professor is exceptionally familiar with another IRS target area. This professor travels extensively, presenting academic papers and attending workshops worldwide. She's been audited four times—her last IRS encounter involved

HOW THE IRS AUDITS RETURNS

Not all audits are alike. In fact, the IRS conducts audits in three main ways: by mail, in their office, or in your office. Mail audits are done through an IRS Service Center and are often caused by discrepancies on your return (a wrong total, for example). When you go to their offices, you meet with a tax auditor who can question you only on items you've been notified of. However, when they come to your home or office—called a *field audit*—the IRS revenue agent can examine any aspect of your tax return.

Service Center audit by mail. Every tax return is first screened electronically at an IRS Service Center. They match items such as 1099 statements against reported interest, employer W-2s against reported income, and other automatically reported items. If a discrepancy is found, the IRS will notify you by mail. It's then up to you to respond with the information to support your return or pay the additional tax and penalty. The entire audit is usually handled by mail. However, if you need to discuss the problem in person, or if the supporting documentation is too extensive to send by mail, you can request that the audit be transferred to a local office.

Office audit with a tax auditor. "Office audits are the most common audit types, and most

everyone is familiar with them," says Sally Ruhnau, Public Affairs Specialist in the Laguna Niguel District. In office audits, the IRS will ask you to make an appointment at their local office to examine specific items on your return, and those items only. For example, they might ask to see documentation to support your deductions for medical expenses or Schedule C business deductions. The tax auditor will then recommend that you pay additional taxes and penalties, allow the deductions, or even recommend a (larger) refund.

Field examination with a revenue agent. Field examinations are conducted at your home or office, wherever the records are located. Since most businesses have extensive and complex records, they aren't easy to just pick up and take to an IRS office, so the agent inspects them on site. However, with field examinations, anything on the return can be audited. Field examinations of individual returns are generally done only when there's a business involved.

Although the IRS claims that each audit type—Service Center, office, and field—carries equal weight or severity, their own numbers show that a field audit usually means that they're going to hit on you for a higher tax and penalty (see Figure C).

—DANIEL L. REIS AND STEVEN F. EDWARDS

GAIL RUTMAN, a certified public accountant, wrote "Holiday Joy! Give Less to the IRS" in the December 1989 issue.

her 1986 tax return with about \$8,000 in employee expenses.

"The IRS thought that a lot of these employment-related expenses should have been reimbursed," she says. She might have escaped examination, therefore, by attaching to her return a university statement describing the institution's reimbursement policy.

Tip #3: Detail charitable deductions. The IRS encourages a taxpayer to support charities, but only if the individual can afford it. Dr. Robert Fritz, owner of Computer Technology Development, a computer consulting company in Sacramento, California, discovered that giving 4 percent of his income to his church exceeded IRS expectations. While questioning this 1987 deduction, the IRS also scrutinized Dr. Fritz's noncash contributions, another sensitive area for examination.

To substantiate the church contributions and avoid an audit, Dr. Fritz could have attached copies of the charity receipts to his

tax return. To support his noncash claims, he might have detailed the original cost and current value of the contributed goods on IRS Form 8283, a required form when the noncash deduction exceeds \$500.

ADVICE FOR THE SELF-EMPLOYED

The IRS recognizes that a beginning business may not be profitable immediately. So it allows two years for a single-owner enterprise, which files a Schedule C, to prove itself. In the third year of loss (out of five consecutive years of operation), the IRS could question the venture's profit motive, call the operation a hobby, and not permit a loss deduction.

IRS computers and personnel review only one year's tax return at a time. So how can they identify three loss years on a Schedule C? David Arnold, my spouse and author of *Getting Started with PCs and Compatibles*, solved the puzzle. In challenging a different piece of his tax return, a personal casualty

loss, the IRS auditor noticed that one of Arnold's Schedule C enterprises didn't quite fit the rest of his return. After investigating prior years' returns, she discovered that his sideline photography business was in a third loss year.

"I felt that the casualty loss deduction was clear-cut," says Arnold. "The item that really mattered was my Schedule C."

Schedule C activity is difficult to document on a tax return. Supporting a true profit motive requires countless pieces of paper: correspondence, marketing tools, canceled checks, receipts of all expenditures, and anything else that shows the business is serious. But even without going overboard, there are some tax gates you can build into your return to help block an auditor's entry.

Tip #4: Categorize expenses exactly. Divide expenses on the Schedule C into distinct, descriptive classifications, beyond those supplied on the form. Split supplies and advertising into two groups, for example, instead of lumping them together in the vague category of office expenses.

If travel and entertainment expenses are high, relative to income, attach an explanation. And consider adding a convincing narrative of your professional expertise and motivation. If there's any murky reason for a deduction, it's wise to explain.

ADDED TAXES FOR THE AFFLUENT

Tip #5: Be aware of a "hidden tax." Certain tax breaks tend to benefit higher-income taxpayers, often resulting in reduced tax payments which are closer to those of less affluent citizens. To ensure that taxpayers approaching \$100,000 of income pay at least a minimum amount to the Treasury, Congress created an additional tax, called *alternative minimum tax* (AMT).

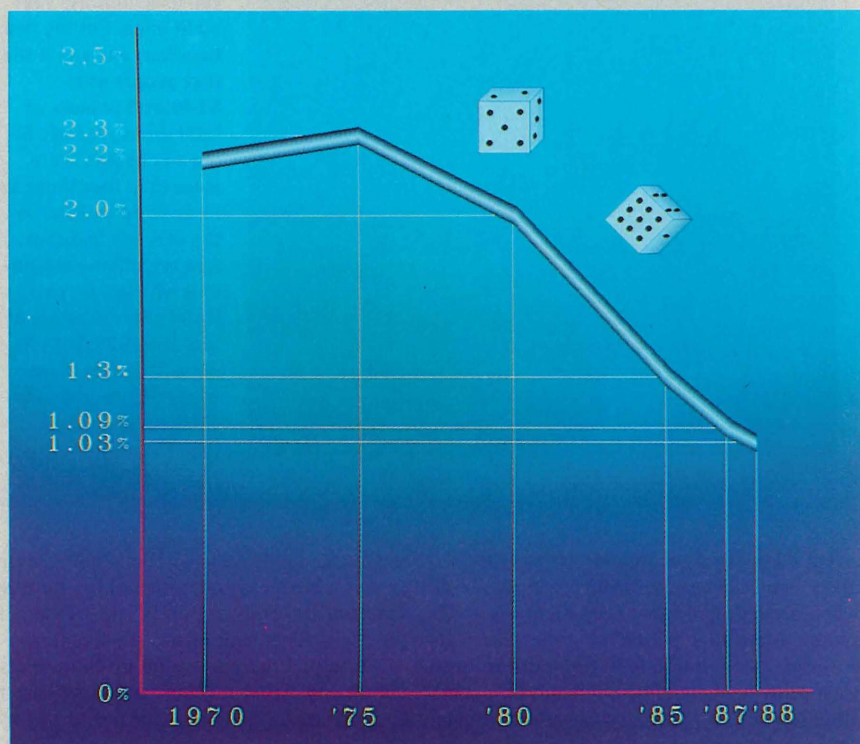
An IRS AMT alarm sounds when specific tax-reducing items on a high-income return climb to over \$30,000. These include substantial tax shelter write-offs, large state and local tax payments, high tax-exempt income from municipal bonds, and charitable contributions of substantially appreciated property.

If these tax features appear on your return, the IRS will search for evidence that you or your tax preparer accurately determined their effect on your income tax. Therefore, even if you're not subject to AMT, include IRS Form 6251 in your return, which calculates in detail whether you would owe the additional tax.

Tip #6: Don't forget passive losses. In the 1986 sweeping reform of the tax structure, Congress included a measure so complex that even the IRS has trouble sorting it out. Known as the passive-loss rules, these tax demons create active nightmares.

In order to determine whether your losses are passive or not, you need to calculate your level of participation (generally based

YOUR AUDIT ODDS: INDIVIDUAL TAX RETURNS AUDITED BY THE IRS, 1970-1988



Contrary to popular belief, your odds of being audited by the IRS have actually decreased since 1970. In 1988, the IRS audited approximately 1,061,000 individual income tax returns, or 1.03 percent of all returns. Yet only 10 years ago, the IRS was auditing more than 2 percent of all individual returns. However, people who file a Schedule C are still more likely to be audited (see Figure B) than the average indi-

vidual. In those one million-plus audits of individual returns, the IRS collected additional penalties of more than \$5.3 billion, for an average of \$5,036 extra per audited return.

Sources: 1989 World Almanac, Scripps-Howard, and 1987 and 1988 Annual Reports of the Commissioner and Chief Counsel of the Internal Revenue Service

on number of hours) in a partnership, S corporation, or real-estate activity. If you don't share sufficiently in operating the business, the passive-loss rules ignite, inflaming IRS interest in auditing your return.

To douse the audit flames, make sure you or your tax preparer completes the passive-loss Form 8582 for your return and attaches detailed supporting schedules for each loss. The better tax-preparation software packages, and many computerized tax services, will calculate and print the schedules.

Tip #7: Take fewer chances with a higher income. In 1987, tax returns reporting more than \$50,000 of income constituted less than 10 percent of all returns filed, yet they made up over 22 percent of all returns audited.

No doubt the IRS prefers to plunge its audit hands into deep pockets, as it has a better chance of extracting more tax dollars with less work. Unfortunately, if your income is considerable, you can do little to mask its effect. The best strategy is just to be aware of the possible consequences and keep the rest of the tax return as incontestable as possible.

PRESENTING YOUR BEST CASE

Tip #8: If an item is not clear-cut, cite the tax authorities. Much of tax law is not black or white, but gray. Its different shades of meaning often permit you to choose a more aggressive approach and remain within reasonable, though riskier, boundaries. If you decide to use this approach for a specific transaction, you or your tax preparer should attach a statement to your return citing the authority for your interpretation. Such authoritative support includes relevant sections of the Tax Code and regulations, tax court cases, or Revenue rulings.

Tip #9: Prepare return with a computer. A general tactic for avoiding audit selection is to submit a neat, easy-to-read tax return. Especially effective are computer generated returns. They tend to be physically more impressive as well as mathematically more accurate than manually prepared returns. And the more accurate your math is, the less likely you'll be audited. If you are processing your own return, consider using one of the fairly sophisticated yet uncomplicated software packages. (See chart, "Tax-Preparation Software for Non-Accountants.")

If, despite the aid of tax-preparation software, you are still stymied as to how to treat a tax item on your return, don't count on the IRS for advice. Tax auditors will not excuse incorrect information supplied by telephone helpers, no matter how well you document the conversation. And, according to the IRS, out of approximately 20 million requests for help during the 1989 filing season (January to April), IRS telephone assistance gave more than 7.4 million wrong answers.

Your best information sources, therefore, aside from wending through labyrinthian tax law, are IRS publications and a knowledge-

able tax adviser. (See boxes, "Free IRS Publications to Order Now" and "Finding a Good Tax Preparer.") Several comprehensive commercial tax guides, such as J. K. Lasser's books, in particular, also offer detailed advice and explanations.

DEALING WITH AN AUDIT OPTIMISTICALLY

If after all these precautions the IRS still calls you in for an audit, the outlook is optimistic as long as you handle the examination properly. Most important is to supply an auditor with thorough supporting documents for your tax-return transactions: receipts, canceled checks, and all the other documents that constitute your business and personal financial records.

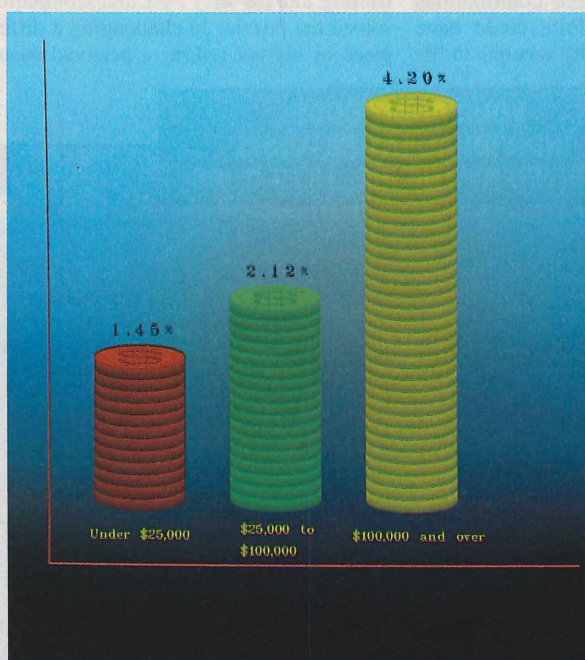
pared your return.

Tip #11: Enter an audit with a realistic attitude. Whether you face the auditor alone or with company, your attitude is important to the success of the meeting. Dr. Robert Fritz, the computer consultant, represented himself when the tax auditor questioned his charitable deductions. He arrived at the meeting with detailed, organized records as well as a realistic mental stance.

"I wasn't going to fight anyone," said Dr. Fritz. "I want to pay my rightful share but I don't want to pay anyone else's." In the end, Dr. Fritz paid no additional tax.

David Arnold agrees that a positive attitude is crucial. He added another ingredient, however, to his interview. In order to con-

PERCENTAGE OF SCHEDULE C RETURNS AUDITED IN 1988



There's no question that the greater your income, the greater your chances of getting audited. And when you file the self-employed person's Schedule C, you also increase your audit odds. Put the two together, and you'll see that people with \$100,000 or more of total gross receipts filing a Schedule C are more than four times as likely to be audited as the average taxpayer. And even those individuals with low incomes (total gross receipts of less than \$25,000) filing a Schedule C are about 50 percent more likely to be audited than the norm.

Source: 1988 Annual Report of the Commissioner and Chief Counsel of the Internal Revenue Service

Tip #10: Store records for seven years. To make sure these documents are available when needed, generally keep them for seven years. After this period of time, the IRS destroys most individual tax returns anyway. However, indefinitely retain all papers affecting future returns, such as home purchase and improvement records, retirement-plan contributions, and receipts from business equipment that you're depreciating.

Many people successfully represent themselves at an audit. If the return is complicated, however, or you feel especially nervous, consider taking along a representative, such as your tax preparer. Having an expert with you is probably cost effective if his or her fees are less than the total additional tax you could possibly owe. And some preparers will accompany you for free if they've pre-

vince the auditor that his Schedule C activity was a business and not a hobby, he enthusiastically and expertly described his photography operations to the examiner.

"I helped the auditor tie up loose ends," comments Arnold, "but in a way that the final wrapped package looked the way I wanted it to." As a result, Arnold owed no additional tax.

At the close of the university professor's audit, the IRS examiner allowed her to deduct all but \$700 of the contested \$8,000 in employee expenses; and after an appeal, she was able to deduct another \$379. Her accountant accompanied her to the audit, which she feels was instrumental to the examination's constructive conclusion.

"The auditors at the district office knew my accountant and had respect for him,"

she says.

Despite an agreeable attitude or a reputable representative, you still may not be able to establish a positive rapport with the auditor. If the examiner appears belligerent or untrained, you can request the aid of his or her group manager. You risk antagonizing

the auditor further, but you probably would lose little and might be assigned a more capable examiner.

No organization can operate without funds, and a tax audit is one tool employed by the IRS to ensure the national coffers are satiated. The IRS operating manual even

stresses the importance of uninterrupted tax collection in the wake of a widespread disaster, such as a nuclear attack. Despite such governmental enthusiasm, however, playing the IRS's game of chance knowledgeably and wisely lessens the blow of an audit of your tax return.

The Home-Office Deduction and IRS Audits: Doing the Right Thing

As detailed in the graphics accompanying this section, people who take deductions on their home offices are more likely to be audited than those who don't. Fear of an audit, however, is generally a poor reason not to take a legitimate deduction. In fact, there are a couple of good fiscal reasons to deduct your home office as well as some equally good reasons not to. Here's a summary of pros and cons for the home-office deduction.

PROS

Money, money, money. The home office is the biggest deduction on many tax returns. For instance, if your home office takes up one fifth of your home, you deduct one fifth of your mortgage interest and property taxes or rent as business expenses. In addition, you can deduct related operating costs, such as heating bills and, if you own it, depreciation of the building (over 31½ years).

Especially good for renters. Of course, rent is normally not tax deductible. However, rent on business space is. Therefore, renters who deduct their home offices get back money on their tax return that would otherwise be lost, including the prorated cost of expenses such as utilities. Also, renters don't encounter the number-one con listed below.

CONS

Money, money, money. When people who deduct their home offices sell their homes, they have to pay tax on part of the sale price—that percentage of space given to the home office. So if you're planning to sell your home in the coming year, you might not want to deduct your home office (depending on what your capital gains might be) for that year. In order to protect your gain from taxes, then, you must turn the office back to personal use in the year you sell it. Just don't use the office exclusively for business anymore—play games on your computer, for example.

Time-consuming paperwork. After you figure out your personal financial trade-offs (see below), the time and effort it takes to

document your home office might not be worth it to you. Remember, you'll need to marshal records for everything, including proof that the space was used "regularly and exclusively" (as the IRS says) as your principal place of business.

THE BOTTOM LINE

Money, money, money. The more complex a tax return, the more preparing it becomes a series of trade-offs. In one home-office deduction scenario, you transform a portion of mortgage interest and property taxes from itemized personal deductions (Schedule A) into business expenses (Schedule C), which reduces net business income, which then

decreases your self-employment tax. However, reduced net income can also reduce your deduction for an individual retirement plan, such as a Keogh plan. Whether or not a scenario like this can work out to your ultimate advantage always depends on your personal tax situation and financial plans. Consult your accountant or other tax professional for further help.

For more information on deducting the home office, including IRS standards on who qualifies for the deduction, see "Deducting Your Home Office: Help or Hindrance?" on page 64 of the December 1989 issue.

ARE YOU AN AUDIT TARGET?

How does the IRS decide whose tax returns to audit? Mainly through two computerized selection processes.

RANDOM SELECTION

The first, the Taxpayer Compliance Measurement Program (TCMP), randomly chooses approximately 50,000 tax returns about every third year for in-depth, line-by-line analysis. There is no rationale behind this selection, and taxpayers can do nothing to avoid it. The next few years of tax returns, however, should be safe from the TCMP's clutches, since the program currently is focusing on 1988 returns.

SEARCHING FOR SPECIFICS

The data garnered from the TCMP program is used to develop discriminant function (DIF) formulas, which are the IRS's main tools for choosing which returns to audit. The DIF formulas analyze all returns annually, but only selected items within them. DIF looks for possible substantial error by comparing specific line items on your return to normal patterns. This is the most common reason for an audit. The criteria, based on findings from TCMP audits, are changed periodically and kept secret.

Returns selected by the DIF program are sent from the regional IRS Service Center to your local district office for detailed examination. However, you still might not be audited,

since IRS personnel then analyze the returns to refine the selection further. As a general guideline, the IRS audit analysts have been cautioned to seek out only significant issues. To accomplish this, they look for unusual relationships, such as a \$5,000 charitable contribution with only \$30,000 of income or airline expenses for a day-care operation. An unusually large item standing alone, such as \$20,000 of paper and supplies for a computer consultant, might also arouse concern.

ESCAPING AN AUDIT

However, there are two more unavoidable scenarios in which you could get targeted for an audit: In one, an informant gives the IRS a report regarding your tax return and they decide to take action on it; in the other, a related "entity" gets audited. For instance, if your spouse or former business partner undergoes an audit, the IRS might need to examine your return to verify the other's return.

Even though audits are computerized, whether or not you get audited is still not a cut-and-dried process. Therefore, the techniques you use to report extraordinary or audit-sensitive tax items on a return can influence the analyst's decision. As detailed in "Beating the IRS Game of Chance," documenting any unusual area of your return can help prevent a costly meeting with the IRS.

—GAIL RUTMAN

Finding A Good Tax Preparer

Preparing your own tax return may be too time-consuming or complex, even with the aid of instruction books and tax-preparation software. However, three levels of tax preparers are arrayed to help you win the tax battle: tax-preparation services, Enrolled Agents, and CPAs.

STOREFRONT SERVICES

The most visible tax-preparation services are the chains, notably H&R Block. Like fast-food restaurants, they are quick and inexpensive, and—while not of the highest quality—they can satisfy your basic needs. These storefront franchises train their own staff members, who are not required to have previous accounting experience, in the rudiments of tax preparation.

Their operations are geared toward simple returns that contain straightforward deductions, such as home-mortgage interest, and income derived primarily from salary (however, an H&R Block source indicated that at least 50 percent of the returns they handle are more complicated). The preparation charges are modest, generally no more than \$100.

Depersonalized service, however, is one of the drawbacks of the convenience tax chains. Although you may make an appointment for a tax session, you probably will be assigned the first available preparer. Therefore, there is little year-to-year continuity or attempt to become acquainted with your individual situation. Furthermore, many of the

franchises remain open only during tax season, precluding any needed year-round contact.

H&R Block's Executive Tax Service, located in a limited number of cities, caters to a more demanding clientele. It offers private interviews with the same staff member every year, at a higher level of expertise. It costs about double the amount of the basic service, however. And like the standard service, it provides no detailed tax planning (although an H&R Block spokesperson said that with any of the company's services, they offer advice on how to avoid future taxes).

ENLISTING ENROLLED AGENTS

A little-known, but powerful group of tax preparers are called Enrolled Agents. These government-approved individuals must initially pass a rigorous two-day tax examination given by a branch of the U.S. Treasury department. Then they must attend 24 hours per year of tax courses, 30 hours if they belong to the National Association of Enrolled Agents. Although not required to have an accounting background, Enrolled Agents are well versed in the tax code.

Enrolled Agents typically charge \$150 to \$400, depending on where you live, to prepare a moderately complex tax return for a family with \$60,000 of income. These tax preparers generally concentrate on individual tax returns and less detailed business returns; service is personal and year-round. And unlike some franchised preparers, Enrolled Agents are empowered to represent clients during IRS audits.

CERTIFIED PUBLIC ACCOUNTANTS

If complex business issues are involved, certified public accountants are probably the best way to go. CPAs must pass a demanding 20-hour examination and complete an average of two years of accounting courses to obtain their licenses. Subsequently, they are required to fulfill a minimum of 40 hours of professional coursework per year.

Unlike an Enrolled Agent's background—which concentrates on taxes—a CPA's knowledge mixes accounting and taxes. A strong accounting foundation, however, is essential to the preparation of intricate business returns. Furthermore, most small- and medium-size practitioners focus on tax preparation, which constitutes the bulk of their continuing education. CPAs often emphasize continuous tax planning and, therefore, provide year-round consultation services. Fees are usually higher than those of Enrolled Agents, and total costs vary depending on geographical location, the complexity of the tax returns, and the additional tax services provided.

AVERAGE TAX AND PENALTY WHEN FILING SCHEDULE C

TGR*	Field Audit	Office Audit	Mail Audit
Under \$25,000	\$3,693	\$2,135	\$1,678
\$25,000 to \$100,000	\$5,553	\$3,989	\$4,763
\$100,000 and over	\$21,479	\$12,683	\$13,724

*Total Gross Receipts

So how much are you likely to pay in additional taxes and penalties if you're audited? Well, it depends upon which IRS division performs the audit. The figure above shows the 1988 average tax and penalty per return by type of audit. The three types of IRS audits are by mail, through an IRS Service Center; in their offices, where you bring in your supporting documentation on specific areas of your return; and in the field, where an IRS revenue agent comes to your place of business and can investigate your entire return.

The amounts listed here are recommended tax and penalty, not the actual amount collected (after appeals and such). Although the IRS claims that each audit type—Service Center, office, and field—carries equal weight or severity, you can see here that a field audit with a revenue agent usually means you're going to have to pay a higher tax and penalty. The higher figures are also due to revenue agents usually going after bigger game than the Service Centers or office-based tax examiners.

Source: 1988 Annual Report of the Commissioner and Chief Counsel of the Internal Revenue Service

Free IRS Publications To Order Now

CHOOSING YOUR TAX ADVISER

Once you have determined the level of tax preparer you need, select a specific individual who understands your special needs and fosters a comfortable rapport. Whether you find a tax preparer by recommendation, searching the telephone book, or happenstance, arrange a preliminary interview. Notice the office environment, verifying the existence of at least a minimal research library. Ask about the types of clients the preparer deals with to determine that he or she possesses the expertise for your particular situation.

Preparers often pass tax returns on to staff members. That's all right, but make sure the professional in charge reviews all staff-prepared returns and maintains personal contact with clients.

Seeking reinforcement from the army of tax experts can provide tax relief in the form of decreased anxiety and increased savings. If you enlist the proper generals, you can win the tax war. —GAIL RUTMAN

TAX TRIVIA

In preparing this section, we discovered a free, fascinating source of information—the IRS itself, in the form of its *Annual Report 1988*, the most recent one available. The report, much like any corporation's annual report, discloses all the details of running the business. We included extracts from the report in the graphs that chart your audit odds. But as an appetizer, here are a few more figures.

Did you know that . . . ?

- An audit doesn't always mean you'll owe the government more money. In 1988, of all individuals and corporations who had their tax returns audited (the Internal Revenue Service prefers the word *examined*), 21 percent of them didn't owe the government a penny more. In fact, an amazing 8 percent were entitled to a refund!

- The IRS collected over \$935 billion in 1988 taxes. Who paid? Approximately \$110 billion came from corporate income tax, \$474 billion from individual income tax, \$318 billion from employment tax (such as Social Security), \$7 billion from estate tax, \$26 billion from excise tax, and \$.5 billion from gift tax.

- In 1961, corporations paid more than 32 percent of the taxes the IRS collected on income and profits, but they paid less than 19 percent in 1988. Correspondingly, the burden of taxes on individual returns has shot up from a 68 percent share to more than 81 percent in the same 27-year period.

And finally, have you noticed the message on your tax forms that invites you "to make a voluntary contribution to reduce the public debt"? Who can afford it, right? Well, in 1988, there were 423 voluntary, tax-deductible (on next year's return) contributions totaling \$175,000.

Did you know that if an Internal Revenue Service employee gives you incorrect advice on the phone, you're still responsible for any errors on your return? And if you're enduring an IRS audit and you cite a commercial publisher's book as your backing, the tax agent could say that it's not acceptable.

Your only true authority is the written word from the IRS. The best sources for information are the free IRS publications and the tax code itself (along with Tax Court decisions and IRS rulings). Now, most small-business people

aren't about to delve into the tax code (that's why we hire accountants); but the IRS publications are full of informative, though dry, reading. They're no less comprehensible than several of the commercial books around, and they're ultimately reliable. If you're looking to do some of your own basic tax planning, they can form a stable foundation. And many small businesses can manage the whole tax-filing process on their own when backed up by the booklets below. Titles in red are of particular interest for home-based entrepreneurs.

Publications

- 1** Your Rights as a Taxpayer
- 17** Your Federal Income Tax
- 334** Tax Guide for Small Business
- 463** Travel, Entertainment, and Gift Expenses
- 501** Exemptions, Standard Deduction, and Filing Information
- 502** Medical and Dental Expenses
- 503** Child and Dependent Care Credit
- 504** Tax Information for Divorced or Separated Individuals
- 505** Tax Withholding and Estimated Tax
- 508** Educational Expenses
- 520** Scholarships and Fellowships
- 521** Moving Expenses
- 523** Tax Information on Selling Your Home
- 524** Credit for the Elderly or the Disabled
- 525** Taxable and Nontaxable Income
- 526** Charitable Contributions
- 527** Residential Rental Property
- 529** Miscellaneous Deductions
- 530** Tax Information for Homeowners
- 533** Self-Employment Tax
- 534** Depreciation
- 537** Installment Sales
- 541** Tax Information on Partnerships
- 544** Sales and Other Dispositions of Assets
- 545** Interest Expense
- 547** Nonbusiness Disasters, Casualties, and Thefts
- 548** Deduction for Bad Debts
- 550** Investment Income and Expenses
- 551** Basis of Assets
- 552** Recordkeeping for Individuals and a List of Tax Publications
- 554** Tax Information for Older Americans
- 555** Community Property and the Federal Income Tax
- 556** Examination of Returns, Appeal Rights, and Claims for Refund
- 559** Tax Information for Survivors, Executors, and Administrators
- 560** Self-Employed Retirement Plans
- 561** Determining the Value of Donated Property
- 564** Mutual Fund Distributions
- 575** Pension and Annuity Income
- 587** Business Use of Your Home
- 589** Tax Information on Subchapter S Corporations
- 590** Individual Retirement Arrangements (IRAs)
- 596** Earned Income Credit
- 907** Tax Information for Handicapped and Disabled Individuals
- 909** Alternative Minimum Tax for Individuals
- 910** Guide to Free Tax Services
- 911** Tax Information for Direct Sellers

917 Business Use of a Car

925 Passive Activity and At-Risk Rules

926 Employment Taxes for Household Employers

929 Tax Rules for Children and Dependents

HOW TO ORDER

IRS publications, as well as all forms and schedules, can be obtained by mail at the addresses below. Many materials can be photocopied at participating libraries. And there's a toll-free number to call for requests: (800) 424-3676. Remember: Act now in time to prepare for this year's April 16 deadline (the 15th falls on a Sunday). Or make certain you at least get your hands on a Form 4868, Application for Automatic Extension of Time to File U.S. Individual Income Tax Return.

From experience, if you get your request in by the beginning of March at the latest, you should get your free materials in a couple of weeks—enough time to help you figure out your return.

If you're located in:

Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

Write to:

Forms Distribution Center
Rancho Cordova, CA 95743-0001

If you're located in:

Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Wisconsin

Write to:

Forms Distribution Center
P.O. Box 9903
Bloomington, IL 61799

If you're located in:

Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, Vermont, Virginia, West Virginia

Write to:

Forms Distribution Center
P.O. Box 25866
Richmond, VA 23289

If you're located in:

Foreign Countries

Write to:

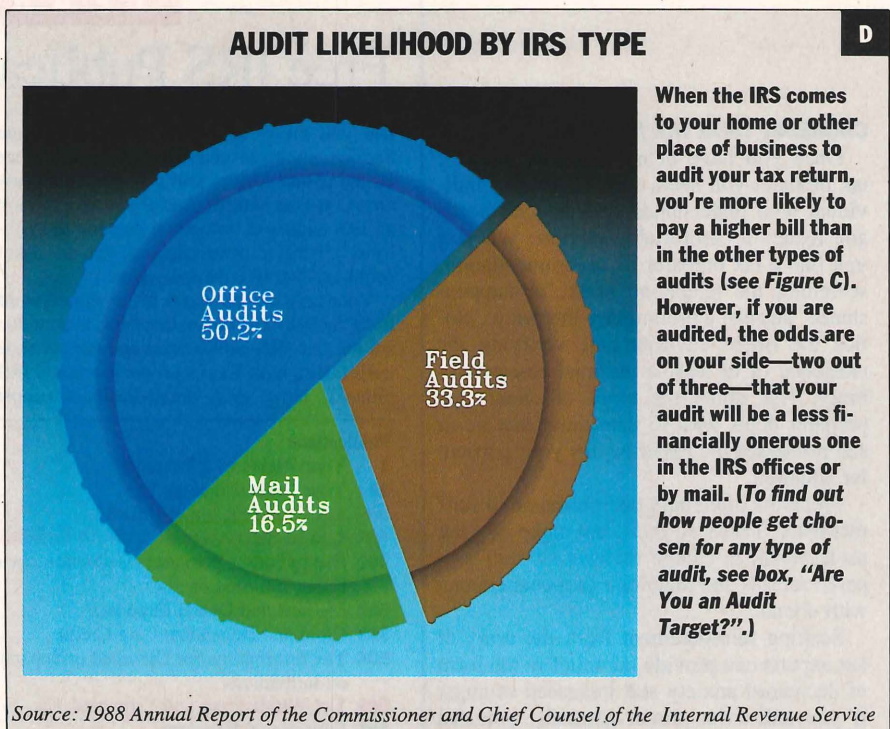
Virginia or California office above, whichever is closer

Tax-Preparation Software for Non-Accountants

Who should buy software for preparing their taxes?

A tax-preparation program makes a lot of sense if you're already doing your own taxes manually, because it enables you to get on-line help not available to the pencil-and-calculator set. This year's version of *Andrew Tobias' TaxCut*, for instance, integrates expert advice on structuring your tax return, based on *Ask Dan About Your Taxes* (a program formerly sold separately). And if you've been keeping your tax records on computer over the course of the year, programs such as *TaxCut* and *Swiftax* let you import data easily. For instance, *TaxCut* takes information from the same publisher's *Managing Your Money* and *Checkwrite Plus*, as well as *Lotus 1-2-3*, while *Swiftax* can use data created with *Quicken*, *Dollars and Sense*, *Managing Your Money*, and *Lotus 1-2-3*.

If you're farming out your taxes now, but want to make preparing your return a hands-on task, the best tax-preparation packages can guide you through the process line by line. For instance, *MacInTax* (for both the Macintosh and PC) includes disk-based IRS instructions for each line of a schedule or form. Yet if your tax situation is complex—with such audit-sensitive areas as passive losses, home-office deductions, tax shelters, or charitable contributions of appreciated property—then you'll probably need to seek the advice of a tax professional as well (see box, "Finding a Good Tax Preparer"). Also consider whether, when balanced against the fee you'd pay your accountant, the cost of the program and the time



you'll spend learning and running it are worth it.

However, if you've never done your own taxes but think a computer will make it easier, think twice. You probably won't be helped by even the best tax-preparation program if you don't have at least basic knowledge of tax law. Yet if it's the math and not the structure of the taxes that gets you down, a program might be just right, since computers are great at computing.

The programs listed on the next page are appropriate for personal tax preparation by amateurs. Tax professionals with small practices can also get by with one of the complete packages that has all the forms and schedules they need. In addition, some of the listed programs have big-brother packages designed for accountants—*TurboTax Personal* has *TurboTax Professional*, *MacInTax* has

TaxView, *Tax Command* has *Tax Command Pro*, and *Tax Shop 1040* has *Tax Shop 1040 Professional*.

NOTE: Because publishers of tax-preparation software must wait until the late December release of the 1989 tax forms before they can put together a complete software package, some of the programs below are sold as "early bird" versions (you send in a registration card in order to get the final-release package). Since 1989 changes in the tax law have been relatively minor, this should cause few problems for most people. Also, due to the necessary annual changes in tax-preparation packages, you can pay the publisher an extra fee (often half the suggested retail price) for a yearly update. Of course, be certain you like the program before paying such a fee.

—DAVID HALLERMAN

Electronic Filing: Is It Worth It?

BY DANIEL L. REIS AND STEVEN F. EDWARDS

If you always complain about how long it takes to get your tax refund, you're going to have to find something else to gripe about. The IRS has come to your rescue. Really, the IRS. Now that electronic filing is in full gear, fast and easy refunds are a reality, even if you wait until April 16, 1990, to file.

To file electronically, you have three choices. You can buy one of the tax-preparation software packages that support elec-

tronic filing (see chart, "Tax-Preparation Software for Non-Accountants"), you can go to an IRS-approved tax-preparation firm like H&R Block, or you can search for one of the rare CPAs who file electronically.

When you use the right tax-prep software, you prepare your return and then, for a small fee, send it electronically or on floppy disk to the IRS-authorized transmitter (a third party) that accepts output from your

particular software. The transmitter—who's contracted by the software publisher—will recheck the return for accuracy and forward it to the IRS. Since most errors are due to computational problems, the software actually reduces your chances of being audited

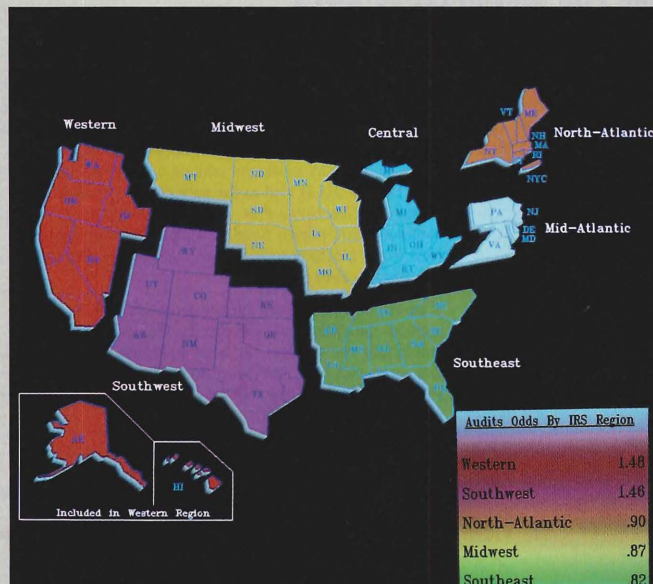
DANIEL L. REIS and STEVEN F. EDWARDS are MBAs who specialize in writing about business, marketing, and high technology.

TAX-PREPARATION SOFTWARE FOR NON-ACCOUNTANTS

TITLE/PUBLISHER/ PRICE	SYSTEM REQUIREMENTS	SCHEDULES	FORMS	NOTES
Andrew Tobias' TaxCut 1989 MECA Ventures, Inc. (203) 226-2400 \$80 (update, \$50)	512K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.0 or higher	1, A, B, C, D, E, F, K-1, R, SE	1040, 1040A, 1040ES, W-2, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4137, 4255, 4562, 4684, 4797, 4868, 4952, 4972, 5329, 6251, 6252, 8453, 8582, 8606, 8615, 8808, 8814	Incorporates an updated version of <i>Ask Dan About Your Taxes</i> , an older program that gives expert advice—similar to a session with a human accountant—on structuring your tax return. That makes this one of the most helpful tax-prep packages. Offers electronic filing by modem or mailing a disk. Will import data from Lotus 1-2-3 as well as the publisher's own <i>Managing Your Money</i> and <i>Checkwrite Plus</i> . Prints an IRS-approved 1040, even with dot-matrix printer. State tax supplements for California, New York, Massachusetts, Illinois, New Jersey, Pennsylvania, and Virginia (\$40 each).
DacEasy Rapid Tax DacEasy, Inc. (800) 877-8088 \$70 (update, n/a)	512K IBM PC, PS/2; hard-disk drive; DOS 2.0 or higher	A, B, C, D, E, F, K-1, R, SE	1040, 1040A, 1040ES, 1040EZ, 2106, 2119, 2210, 2441, 3800, 3903, 4137, 4255, 4562, 4684, 4797, 4972, 5329, 6251, 6252, 8453, 8582, 8606, 8615, 8814	Simultaneously calculates three ways of filing—joint return, married filing separately, and single—then you decide which will benefit you the most. Includes a Personal Interview section that automatically decides which forms and schedules you need. Has electronic filing. Imports data from Lotus 1-2-3. State tax programs available for 34 states (\$10 each).
J.K. Lasser's Tax Advantage 1990 Simon & Schuster Software (212) 373-8880 \$40-\$60 (update, n/a)	512K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.0 or higher. 1MB Macintosh; two drives (hard-disk drive recommended); System 4.1 or higher	A, B, C, D, E, F, R, SE	1040, 2106, 2119, 2441, 3903, 4562, 6251, 8606, 8615, 8814	For basic tax returns, this easy-to-use package—formerly released as <i>Tax Advantage</i> by another publisher—is an inexpensive option. Gives you worksheet for comparing "what if" tax alternatives. Prints all forms and schedules in IRS-approved format, including 1040. Offers pop-up calculator and notepad.
J.K. Lasser's Your Income Tax 1990 Simon & Schuster Software (212) 373-8880 \$80 (update, \$48)	640K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.0 or higher (3.0 or higher for Tandy computers)	A, B, C, D, E, F, K-1, R	1040, 1040ES, 1116, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4137, 4255, 4562, 4684, 4797, 4868, 4952, 4972, 5329, 6251, 6252, 8283, 8582, 8606, 8615, 8814	Produced by J.K. Lasser Tax Institute, who created a best-selling tax guide. Prints IRS-approved forms, including 1040. Includes on-screen calculator and a system that helps you figure out which forms and schedules to file. Supplements available for New York, New Jersey, and California (\$40 each).
MacInTax 1040 Softview (805) 385-5000 \$99 (update, \$55)	512Ke Macintosh; two 800K drives (hard-disk drive recommended); System 4.1 or higher	1, 2, A, B, C, D, E, F, R, SE	1040, 1040A, 1040ES, 1040EZ, 1040X, 1116, 2106, 2119, 2210, 2441, 2555, 2688, 3468, 3800, 3903, 4255, 4562, 4684, 4797, 4868, 4952, 6198, 6251, 6252, 8283, 8453, 8582, 8606, 8615, 8801, 8808, 8814	Uses Macintosh's graphics to show exact replicas of IRS forms and schedules on-screen, making this potentially the easiest tax-prep package around. Has electronic filing function. Will import data from <i>Quicken</i> . Offers California, Connecticut, Illinois, Massachusetts, New Jersey, New York, Ohio, and Virginia supplements (\$79 each; update, \$40).
MacInTax for Windows Softview (805) 385-5000 \$99 (update, \$55)	640K IBM PC, PS/2 with 80286 or 80386; hard-disk drive; CGA, EGA, VGA. Hercules; mouse; DOS 3.0 or higher	1, 2, A, B, C, D, E, F, R, SE	1040, 1040A, 1040ES, 1040EZ, 1040X, 1116, 2106, 2119, 2210, 2441, 2555, 2688, 3468, 3800, 3903, 4255, 4562, 4684, 4797, 4868, 4952, 6198, 6251, 6252, 8283, 8453, 8582, 8606, 8615, 8801, 8808, 8814	Despite the name, this is the PC version of the popular Mac package. Runs under <i>Windows</i> for ease of use. Supporting details can be added to any line item, and complete IRS instructions can pop up for any line item, too. Offers electronic filing (extra fee). Includes tax forms for California, Connecticut, Illinois, Massachusetts, New Jersey, New York, Ohio, and Virginia (\$79 each; update, \$40).
Personal Tax Filer Disk-Count Software, Inc. (612) 633-0730 \$20 (update, n/a)	256K IBM PC, PS/2; two drives; DOS 2.0 or higher	A, B, C, D, E, F, R, SE	1040, 2106, 2119, 2210, 2441, 3903, 4137, 4562, 6251, 8606, 8615	Inexpensive tax preparation with a different approach: you fill out forms with hints from the software. Prints IRS-approved schedules and forms, except for 1040.
Personal Tax Preparer Parsons Technology, Inc. (319) 395-9626 \$49 (update, n/a)	384K IBM PC, PS/2; two drives (hard-disk drive optional); DOS 2.0 or higher	A, B, C, D, E, F, R, SE	1040, 1116, 2106, 2119, 2210, 2441, 3903, 4136, 4137, 4562, 4684, 4797, 4835, 4868, 4970, 4972, 5329, 6251, 8396, 8582, 8606, 8615, 8801, 8814	All printed forms and schedules are approved by IRS, including 1040. Menu-based commands and context-sensitive help for ease of use. Includes two calculators (math and financial), notepad, and tax planner for 1990.
Swiftax Timeworks, Inc. (708) 948-9200 \$70 (update, \$40)	512K IBM PC, PS/2; one drive (two drives recommended); EGA, VGA; DOS 2.0 or higher	1, 2, A, B, C, D, E, F, R, SE	1040, 1040A, 1040EZ, 2106, 2119, 2210, 2441, 2688, 3903, 4255, 4562, 4797, 4868, 6251, 6252, 8283, 8606, 8615, 8814	Offers a "taxpayer interview" that helps you figure out which schedules and forms to use. Includes <i>The Price Waterhouse Personal Tax Adviser</i> book, a clearly helpful adjunct to the software, and context-sensitive help screens. Will import data from <i>Quicken</i> , <i>Dollars and Sense</i> , <i>Managing Your Money</i> , Lotus 1-2-3, and ASCII text files. Prints an IRS-approved 1040, even with dot-matrix printer.
Tax Command Practical Programs, Inc. (414) 272-7269 \$100 (update, \$50)	512K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.0 or higher	1, A, B, C, D, E, F, R, SE	1040, 1040A, 1040EZ, 1040ES, 2106, 2119, 2441, 3903, 4562, 6251, 8453, 8615	Simple, menu-driven program that's been around for several years. Not for complex returns, but what it does it does well enough.
Tax Preparer HowardSoft (619) 454-0121 \$295 (update, \$95)	128K IBM PC, PS/2; two drives; DOS 1.1 or higher	A, B, C, D, E, F, R, SE	1040, 1040ES, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4562, 4797, 6251, 6252, 8582, 8598, 8615	One of the older tax-prep packages, yet still very useful. Quick-running program automatically fills in correct forms and schedules. Prints an IRS-approved 1040. Supplement available for California only (\$125).
Tax Shop 1040 TenKey Publishing, Inc. (407) 351-0966 \$69 (update, n/a)	512K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.0 or higher	1, 2, A, B, C, D, E, F, K, R, SE	1040, 1040A, 1040EZ, 1040ES, W-2, 2106, 2119, 2210, 2441, 3903, 4137, 4562, 4684, 4797, 4835, 4868, 4952, 4972, 5329, 6251, 6252, 8283, 8582, 8606, 8615, 8808, 8814	Has electronic-filing feature that lets you file by disk or modem: Send return to software's publisher, who forwards return directly to IRS computers. No charge for first return. Supplements available for 37 states (\$29 each).
TurboTax Federal Personal Series ChipSoft (619) 453-8722 \$75 (update, \$37.50)	384K IBM PC, PS/2; two drives; DOS 2.1 or higher	1, A, B, C, D, E, F, R, SE	1040, 1040A, 1040ES, 2106, 2119, 2210, 2441, 3800, 3903, 4255, 4562, 4797, 4884, 4952, 4972, 6251, 6252, 8283, 8582, 8606, 8615	A tax-planning, as well as tax-preparation, package. For advice, includes context-sensitive help, on-line instructions, and a means of helping you choose the proper forms and schedules. Prints an IRS-approved 1040 on dot-matrix or laser printer. Supplements available for most states (\$40 each).

YOUR AUDIT ODDS BY REGION

E



Source: 1988 Annual Report of the Commissioner and Chief Counsel of the Internal Revenue Service

The chances of your return being audited may vary sharply according to where you live. Those living in the Western and Southwestern IRS regions have audit ratios 40 or more points above the average likelihood of an audit (1.03 percent of individual returns were audited in 1988). The Research Institute of America believes that the variation between IRS regions may in part be due to differences in the number of "high income" returns.

Once the IRS receives the return, it is checked again for accuracy. Unlike paper returns that can get lost in the shuffle, the IRS acknowledges electronic returns as received and accepted within 48 hours.

Some notable tax-preparation programs that support electronic filing are *Tax Shop 1040*, *Andrew Tobias' TaxCut*, *CPAids* (a professional-level package), *DacEasy Rapid Tax*, *MacInTax*, and *TaxView*.

If you choose a tax-preparation firm, they'll prepare your return, key it into their computer, and send it electronically to the IRS via an authorized transmitter (an extra cost). But don't be surprised if your tax professional doesn't participate. Some aren't offering the service because they prepare only a small number of returns each year—electronic filing requires that they have a computer, the right tax-preparation software, and a modem.

THE FUTURE OF FILING

"The IRS is committed to electronic filing of tax returns and providing the taxpayer with fast refunds," says Chips Maurer, an IRS public affairs officer. Eventually, you'll be able to send your tax return directly to the IRS from your computer on April 15 and get a refund less than a week later. By the mid-1990s, the IRS projects that half of all tax returns will be filed electronically.

The IRS began electronic filing as a pilot project in the 1987 processing year in three metropolitan areas, with about 77,000 electronic returns being filed. The next year, they added five more areas, and the number of returns filed rose to over 580,000. Now that it's been implemented nationally, the IRS expects over 2 million electronic returns this year.

WHO CAN FILE ELECTRONICALLY?

The response to electronic filing by tax-preparation companies has been overwhelming. Not surprisingly, H&R Block, the largest tax preparer in the United States, became involved early on. Although the IRS doesn't charge for electronic filing, the cost to you will vary. H&R Block charges \$25 to file electronically.

They also offer a tax refund loan program called Rapid Refund. "The program provides a refund check [loan] to a taxpayer

within six days from the date [we] file the return electronically with the IRS," says Margaret Chatters, H&R Block district manager in Salinas, California. There's an additional charge of \$38.50 for the Rapid Refund, and you have to qualify. Even if you don't, H&R Block will still file your return electronically.

So who qualifies for electronic filing? At this time, only individual taxpayers entitled to a refund. However, in 1991 the IRS plans to accept balance-due returns, payable by credit card. But if your return requires supporting documentation (see main article, "Beating the IRS Game of Chance"), if you're amending a previously filed return (even if originally filed electronically), or if you're married and filing separately, you have to file on paper.

The IRS now accepts all forms and schedules, including Schedule C, with just a few exceptions. Considering the complexity of IRS procedures and rules, there are surprisingly few restrictions. For details, read IRS Publication 1345 or call (800) 424-1040.

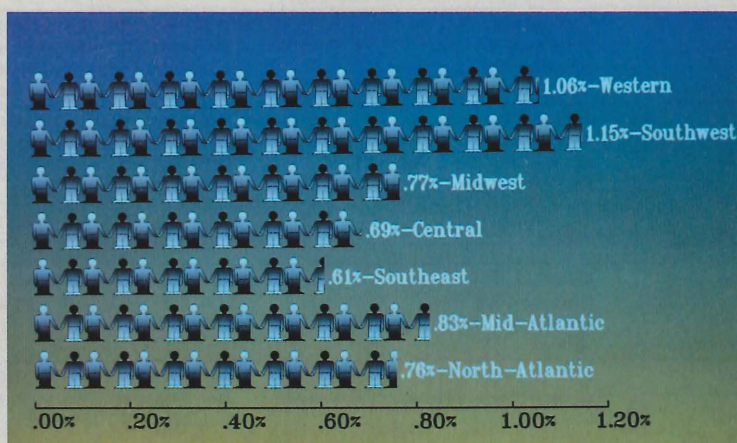
YOU STILL MAIL YOUR SIGNATURE

No matter which method you choose to file electronically, one thing remains the same. The IRS still wants your signature. You or your tax preparer must mail them Form 8453, which contains your signature and other basic information. Luckily, this is the only form required.

However, if you're determined to file on paper, or if you usually owe taxes and don't think the IRS plans for "instant" credit-card withdrawal are such a good idea, don't worry—they'll be accepting paper returns for the foreseeable future. ■

PARTNERSHIP AUDIT ODDS BY REGION

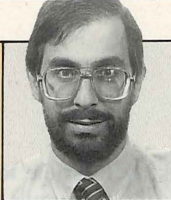
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While only 0.87 percent of all 1988 partnership returns were audited, the audits were not split fairly among the IRS regions. Just as with audits of all taxpayers (see Figure E), partners living in the Western and Southwestern regions were more subject to being audited than residents of

other areas. However, if you run your business as a partnership, you appear to be a lot safer from the IRS audit scrutiny than Schedule C filers: Only 1.49 percent of partnership returns were audited in 1988, while 2.35 percent of Schedule C returns were audited (see Figure B).

Source: 1988 Annual Report of the Commissioner and Chief Counsel of the Internal Revenue Service



*Little Tin Boxes with Receipts for
Business Income and Expenditures
Will Help Defend You at Tax Time*

Keeping Business Records



For years, I was running a home business in my spare time. The income went into my personal checking account. I threw receipts from business purchases into a little tin box.

Then once a year, as April 15 approached, I would pack up my little box and my checkbook and ship them off to my accountant. He separated out personal expenses from business expenses, salary from self-employed income, and withholding taxes from self-employment duties. Magically, my personal income tax form would appear in the mail.

But now, I've entered the brave new world

COREY SANDLER is president of Word Association, Inc., a Holliston, Massachusetts-based editorial services company.

SERIES TOPICS

January

On My Own, Part I
Leaving the Corporation

February

On My Own, Part II
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On My Own, Part III
Keeping Business Records

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On My Own, Part IV
Building an Office

May

On My Own, Part V
Taking on a Partner

June

On My Own, Part VI
Pricing Myself to Sell

of independence. I left my full-time job and set up a corporation. Same person, same work, same accountant—but a new set of little tin boxes.

I've got a checking account in my company name, now blessed with its very own Employer Identification Number, a federal tax I.D. that substitutes for a personal Social Security number. And I've got tin boxes with copies of invoices I've sent to my clients, copies of checks and transmittal letters when they pay, and every scrap of evidence related to any business expenditure, however minor.

One of my most important boxes holds records for home-office deductions. My two-room basement office was built exclusively as an office, so I qualify for the deduction.

I've kept copies of the building permit for

ILLUSTRATIONS BY DENNIS DITTRICH

construction and the bills paid to electricians, carpenters, and carpeting installers. I've also got receipts for the paint I bought and applied myself. And I keep receipts for the cost of my two business telephone lines, as well as heat and electricity. Since my office occupies 600 square feet out of a 3,500-square-foot house, I could deduct about one sixth of my mortgage, heat, and electric bills from my taxable income, though my accountant thinks I should depreciate instead.

GENERAL BUSINESS RECEIPTS

When I started my own company, I had to get into the habit of asking for and keeping all receipts. Taxi drivers sometimes scowl when I ask for a record of a \$3 ride, but I remind myself that I'm in business, too. When I charge a purchase on a credit card, I write down the nature of the purchase on the slip—and don't let the clerk fill in "Miscellaneous." If I take a business client or prospect out for a meal, I write down his or her name on the charge slip as well as a few details of the subject of the meeting. Then I file those receipts in one of my tin boxes.

In the box marked CAR, I maintain a ledger that records every mile I drive on business. I list the date and time, the starting and ending mileage, and the reason for the trip. When tax time comes, I will deduct (and be able to substantiate) expenses for those trips. I also save toll receipts and parking stubs.

In the box marked TRAVEL, I keep airplane-ticket receipts, car-rental forms, and hotel receipts from business travel.

In a separate box are receipts for meals and business entertainment. I should tread lightly here, my accountant warns, because an unusual amount of entertaining sets off IRS alarms. So, too, would an unusual type of entertainment: taking a client to Tijuana may be a way to get that contract, but it may also be the way to catch the eye of a tax clerk.

TELEPHONE LOG

One of the first things I did when I set up my office was to create a telephone log sheet using *Allways*, a "spreadsheet publisher" that works as an add-on to Lotus 1-2-3. I use one log sheet each day, recording all outgoing phone calls with the name of the person called, the phone number, and the start and finish time. I also indicate the client or project associated with the call. These daily logs, along with telex, facsimile, and electronic-mail receipts, go into another tin box.

The log serves three purposes: it records all business calls, helping me to substantiate the use of the phone; it helps me keep track of the projects I'm doing on a particular day; and it ensures that I don't lose crucial phone numbers.

The telephone log also has a to-do list. At

the start of each workday I list the tasks I hope to accomplish and the phone calls I plan to make. I also put a box on the phone log to record the number on the streaming-tape cartridge I use to back up my computer's hard disk at the end of that day. Not only does this box help me keep track of the most current tape, it also prompts me to back up daily.

Finally, I included a small reminder about the different types of telephone service I have assigned to my two principal outgoing telephone lines, to help me take advantage of the cost-saving features of each account.



I consider my computer to be the ultimate tin box.

In short, while I maintain a log to keep good records, I use the record-keeping process to improve my overall work habits and organization.

OFFICE EXPENSES

I have a set of tin boxes for office expenses. I maintain one file for expendable items such as paper, diskettes, printer ribbons, cartridges, and other nondepreciable items. I maintain another file for depreciable items and major office-related capital expenditures, such as computers, printers, and facsimile machines.

In a box marked RESEARCH, I track books and magazine and newspaper subscriptions purchased for professional purposes, as well as the bills from on-line databases such as Dow-Jones News Retrieval, the Official Airline Guide, and CompuServe.

A box labeled TAX FORMS holds state, federal, and local tax forms and associated paperwork. A box called INSURANCE holds insurance policies, bills and forms for health, disability, liability, worker's compensation, and life insurance policies.

A box market BANK keeps monthly statements and deposit slips, check-printing bills, and other paperwork from the bank, along with printouts from the electronic checkbook on my computer.

Of course I keep a box called PROFESSIONAL SERVICES. This is where I put paid bills for lawyers and consultants, and the bill from my accountant, who got me into this world of little tin boxes in the first place.

TRACKING INCOME AND OUTGO

Just as I use my telephone log to organize my daily activities, I have come to rely on the features of my computerized money-management package as a means of tracking income and outgo. Early on, I was smitten by *MoneyCounts*, a capable money-management program (\$35, plus \$5 shipping; Parsons Technology, [800] 779-6000; [319] 395-7300). I put the corporate checking account into the program, establishing a full set of income, expense, and tax categories for all transactions.

My accountant was impressed with the reports this program produced and now asks me to send him monthly income and outgo reports. I assign as many categories for expenses and income as the program allows.

As good as *MoneyCounts* is, it lacks one element of bookkeeping that I found very important for my new business: an accounts receivable module. It's great to be doing a lot of work, but it can get scary when you don't really know if all of your clients have paid their bills or how much money is owed you.

I've searched high and low for an accounts receivable program that fits my non-accountant mind-set, but thus far have had no success. In fact, I'd no sooner want to add a double-entry bookkeeping system to my office than I would want to give up my word processor and go back to quill pens. But, in effect, I guess I have.

I did something within *MoneyCounts* that can also be applied to most other checkbook programs. I created a cash account and called it Accounts Receivable. Each time I send out a bill to a client, I enter the amount of the bill as a Receipt; when the check comes in, I enter the amount as a Payment. It's a bit clumsy and nonstandard, but it does work.

THE ULTIMATE TIN BOX

I use the electronic systems to organize and summarize my business. They help me prepare for taxes and forecast future earnings. My accountant happily accepts the neat printouts. He doesn't need to see actual paper receipts anymore—and with luck, the IRS will never ask to see them either—but I do need to hold onto receipts, as well as checks and other documents, as evidence of my business dealings. My computer is the ultimate tin box. ■

386SX-Based Computers

A Question-and-Answer Guide to Choosing A High-Tech, Low-Cost System

BY STEPHEN MILLER



Three members of the new 386SX generation—(clockwise, from left) the AST Bravo/386SX, the Dell System 316SX, and the Mitac MPC2386—offer 386 power in handy, space-saving designs.

If you're still working with the tried-and-true IBM-PC—or XT-compatible computer you bought three or four years ago, chances are, you've had thoughts about replacing it with something more up-to-date. You're probably cramped for disk storage. And the computing performance that seemed so breathtakingly fast when the box was new probably feels pretty poky now (even though it hasn't changed).

Hot, new computers are announced daily, but at hot, new prices that suggest cars more than computers. It's a dilemma. You want to upgrade but you don't want to spend your whole year's operating budget to do so. On the other hand, you also don't want your

replacement computer to be hopelessly obsolete a year from now. What to do?

For some time now, 80286-based computers have been the sensible (practical and affordable) upgrade for most businesses. Recently, though, computers based on Intel Corporation's 80386SX microprocessor have begun to look increasingly attractive as an alternative.

People are a bit puzzled by the 386SX. It's a little better than a 286 but not quite as good as a "real" 386 (now called the 386DX). What's the rationale for this in-between machine? Why should you or I be interested in such a computer?

Briefly, the SX is an attempt to provide some of the advantages of the 386 chip design at something like the cost of the 286. We'll consider some questions, answers,

and examples that should shed some light on how successful this attempt has proven to be—and how good a choice this computer might be for you.

Q: What exactly is a 386SX?

A: The 386SX is essentially a hybrid between the 80286 and 80386 microprocessor chips. Like the 386, it processes information in 32-bit chunks—which means it can run programs written specifically for the 386—but it moves data around the system through a 16-bit-wide data path like the 286. The effect of the narrower data path on overall system performance is similar to that of blocking off the right-hand lane of an expressway for repairs—it slows down traffic.

Q: How does an SX's performance compare to a 286's? To a 386DX's?

STEPHEN MILLER regularly reviews hardware for HOME-OFFICE COMPUTING.

A: In normal usage, the processing performance of an SX-based computer will fall midway between a 286's and a 386DX's of equivalent clock speed. The SX chip is currently available only in a 16-MHz version, which should roughly equal the performance of a 20-MHz 286. The SX will be measurably slower than a 16-MHz 386DX and, of course, substantially slower than a 20-, 25-, or 33-MHz 386.

Q: Then what are the advantages of a 386SX?

A: Aside from the modest performance advantage over the 286, the significant benefits of the 386SX relate to the memory-management and multitasking capabilities built into the 386 chip and to the high-performance software being written specifically for 32-bit processors (very little of which is yet available).

Q: Who can benefit from a 386SX?

A: The 386SX is a good choice for people who use their computers a lot—and use them for more than one application—but who don't really need the processing speed of the 386DX.

Mel Corbett, for example, runs a real-estate management and development firm. He turns on his computer first thing in the morning and spends several hours a day working on it.

Corbett uses a word processor, a spreadsheet, two databases (a property-management program called *Skyline* and, for his custom-designed database applications, *Paradox*), a communications program for accessing on-line databases such as CompuServe and Dow Jones News/Retrieval and several bulletin-board systems, a remote communications program that lets him link his home office to the main office computer, and a presentation-graphics program.

Many home-based business owners have setups similar to Corbett's. To get a clear picture of what it might be like to work with such an array of applications, let's consider a hypothetical example.

Suppose you're writing a proposal on your word processor. Ten minutes into the project you realize that you need to find some information in your database and check some facts from an on-line service. You save your document, exit the word processor, start the database, find the information, write it down on a piece of paper, exit the database, run your communications program, log on to Dow Jones, execute the necessary search, save the information, log off, exit the communications program, start the word processor again, type in the database information, merge the Dow Jones material, and continue writing . . . until you need some figures from your spreadsheet—then the juggling process starts all over again.

Most of us take this sort of routine for granted. It's a hassle, but you can't fault the

computer. That's how it was designed to work: one job at a time.

Q: Is there a better way?

A: Yes there is. Corbett, for example, spent a lot of money (over \$2,000) on hardware and software, equipping his old Compaq Deskpro 286 so that he could streamline all this activity: access any needed program more or less instantly and even run more than one program at a time. (The first of these high-tech tricks is known as *program switching*; the second is properly called *multitasking*.)

Anyone like Corbett would get very impatient with the scenario described above. But with a 386 microprocessor and one of the popular multitasking packages, such as Microsoft *Windows/386* or *Desqview 386* from Quarterdeck, this is how our hypothetical session would go:

You're writing your proposal and realize you need an address from your database. With your multitasking software you open a window on-screen and call up your database. The screen is now split in two, with the word processor operating in one window and the database in the other.

You find the address you need; then, using the built-in cut-and-paste utility (in addition to managing multitasking, most of these programs provide tools that make it quick and easy to move information between applications), you mark the address and pop it directly into your proposal. You resume work on your word processor but leave the database open (running, but inactive).

Next, there's a file on CompuServe that contains some information you need for this proposal. You open another window and run your communications program. It's going to take some time to download the information, so you return to the word processor and keep working.

At this point, you need to insert some financial information from a spreadsheet file. You open yet another window, run the spreadsheet program, mark the information you need, and paste it into the document in the word processor.

After 10 minutes, the communications program beeps to signal the completion of the transfer. You pull the text file into another window in your word processor, cut the information you need, and paste it into your proposal.

Since you know that this same process is likely to repeat itself several times during the day, you leave all these programs open and move to them when you need to access data from them or when you need to work within their formats (adding records to the database, creating a new spreadsheet, and periodically checking for messages on electronic mail).

It's addictive. Once you've tried this style of working, you won't want to go back to

the old ways. (*To play out this scenario—as described—using Windows, you would need to choose applications specifically written to run under the Windows environment.*)

Q: What is the SX's advantage in multitasking?

A: Aside from the possible processing-speed advantage mentioned earlier, the SX has it all over the typical 286 in terms of memory management. Multitasking takes a lot of memory—a minimum of 2MB, and more like 4MB for the style of work described above—and if you're working under MS-DOS, as most of us are, this needs to be *expanded memory*. You don't need to worry about what expanded memory is; you just need to know that the 386 chips, including the SX, have built-in support for expanded memory (although a software package like *QEMM 386* [\$100, from Quarterdeck] is required to manage it). The 286 microprocessor lacks built-in expanded memory support, so unless the 286 manufacturer has added a special EMS chip to the system, you have to buy an expensive add-in board (\$600 to \$700, plus memory chips) to get expanded memory. You can achieve the same result with a 286, but it's going to cost you more.

Q: And what about the software advantage?

A: As mentioned, software publishers are hard at work on MS-DOS packages that will run only on 32-bit processors—the 386s and their descendants. At the moment, most of this is "future-ware." The 386-specific software available today consists largely of multitasking environments, such as *Desqview 386* and *Windows/386*, and memory-management packages like *QEMM 386* and *386-to-the-Max*. Several MS-DOS applications are already available in 386 versions. An interesting example is the optical character recognition package *OmniPage*, which comes in a 286 version and a 386 version. The 386 version sells for just under \$900, but the 286 version costs almost \$2,000, since a coprocessor board is necessary (and included) to handle tasks the 286 microprocessor can't. As more of these awesome software tools hit the market over the next few years, an investment in a 386SX will reach its full potential.

Q: How do system prices compare?

A: Until recently, the cost of a 386SX was only a few hundred dollars less than that of a 386DX and significantly higher than the fastest 286. This is due partly to what I call "new product effect" and partly to the high cost of early production for any new chip.

However, the arrival of i486-based computers is exerting a downward pressure on prices of older types of systems. Also, Intel has drastically cut the price of 386SX chips in order to compete directly with 286 chips.

As a result, prices for 386SX computers are dropping. The SX that six months ago

was more than \$1,000 higher than the same manufacturer's mid-range 286 system, is now only \$500 higher on average. (For example, Dell's 316SX at \$2,499 is only \$250 more than its compact 286 system, the 210. NEC's PowerMate SX is priced \$700 above the company's comparable 286 computer.) Over the course of the coming year, we should see the price gap between 286 and SX systems narrow still further.

Q: What should I look for in a 386SX?

A: There's no standard configuration for 386SX systems (most manufacturers and dealers let you choose your options), but here's the basic setup we recommend to achieve the level of computing that the SX is designed for: 2MB of RAM; one 5.25-inch, 1.2MB floppy-disk drive; a 40MB hard-disk drive; two serial ports; one parallel port; a VGA adapter; and a color VGA monitor. Systems like this can be purchased for under \$3,000—and in some cases, significantly less.

386DX computers with similar configura-

tions start at around \$4,500. A 286 with a similar configuration (but without the 386's memory-management or 32-bit software capability) will cost about \$2,000 plus.

If you envision full-scale program switching or multitasking, you will want 4MB of RAM. A 3.5-inch, 1.44MB floppy-disk drive is an inexpensive option that adds flexibility. For those who need to store large amounts of data, higher capacity hard-disk drives are available (for all units reviewed here except the AST Bravo/386). If you can live without color, substituting a monochrome VGA monitor will save you \$200 to \$300. Display quality will still be excellent.

Q: Should I buy an SX system now?

A: This, of course, depends on your circumstances and needs. If you've been bumping up against the technological limitations of a well-used and well-loved XT, this is certainly a good time to upgrade to a more powerful and flexible system. (There's never a perfect time to upgrade, since the promise of more-for-your-money-if-you-just-wait-a-

little never goes away.)

When choosing between a 286 and a 386SX, consider that the SX is faster and is a better computer for multitasking and that its 32-bit processing capacity equips you to run the software of the future. Is this worth a few hundred dollars extra? Only you can say for sure, of course, but on the whole, the SX seems to be a better buy. If you're not desperate to upgrade now—if you can wait a few months—it will almost certainly become an even better buy.

If you currently own a decent 286 system, moving up to an SX doesn't make nearly as much sense. Although the purchase would undeniably provide you with 32-bit processing power, you certainly wouldn't notice much of a performance boost. Your move, when the 286 begins to feel like a dinosaur, should probably be to a 20- or 25-MHz 386.

While the 386SX is clearly not for everyone, it does fill a gap for those who need more PC power, flexibility, and growth potential at a reasonable cost.

Reviews of Seven SX Systems

It's becoming increasingly difficult to come up with a meaningful set of criteria for rating personal computers, especially systems in the same class, such as the 386SXs in this guide. The microprocessors are identical, which makes the computers built around them so closely matched in performance that most users simply won't notice a difference.

If you think an 80386SX is the system for you, any of the units reviewed here will serve your needs well. But we find some systems better than others in terms of value and availability. The AST and NEC units

should be readily available, especially in urban centers; some of the others may be harder to find. Support policies vary from manufacturer to manufacturer and dealer to dealer. Shop around. Also, keep in mind that the prices quoted in this guide are retail, and that, with the exception of the Dell system (available only by mail order), you should be able to find these products at substantial discounts (20 to 30 percent).

There are physical design differences that will probably influence your buying decision as well—the size of the system's foot-

print, the touch and layout of the supplied keyboard, and the location of the controls.

EDITOR'S NOTE: *Shortly before press time we learned that Tandy is about to launch a new line of personal computers that includes an SX model, the Tandy 4016SX. According to advance information, the 4016SX will be a small-footprint design and will feature built-in 16-bit VGA video output. While the system should be on the shelves by the time you read this, production models were not available in time to be reviewed here.*

AST Bravo/386SX Model 45V



RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$3,540

AST got its start in the computer industry as

a manufacturer of memory-expansion boards. The company began producing complete personal-computer systems three or four years ago, and has now established itself as a leading manufacturer of meticulously crafted computers.

The Bravo/386SX is a compact and capable system, designed for competitive pricing. The Bravo SX is equipped with what AST thinks the budget-minded SX user wants (or needs): a 5.25-inch, 1.2MB floppy-disk drive (with room for a second); VGA graphics; and 1MB of RAM, expandable to 4MB on the motherboard. The system comes with a 40MB hard-disk drive, and, in keeping with the bottom-line design philosophy, AST does not offer larger hard disks for the Bravo. There are only four available expansion slots (stacked one above the other to save space). For those who need

more hard-disk space or more expandability, AST offers another, more sophisticated, SX system (reviewed below).

AST provides an abundance of information and useful utilities with its systems. For example, the ASTMENU utility helps you set up your system. It walks you through the formatting of the hard disk, writes the necessary DOS system files, and helps you install the other utilities supplied: AST-EMM; a memory manager; and AST-CACHE, a so-called disk cache, which helps the system run a little faster. (Incidentally, each one of the systems reviewed here provides a similar software-based disk-caching system.)

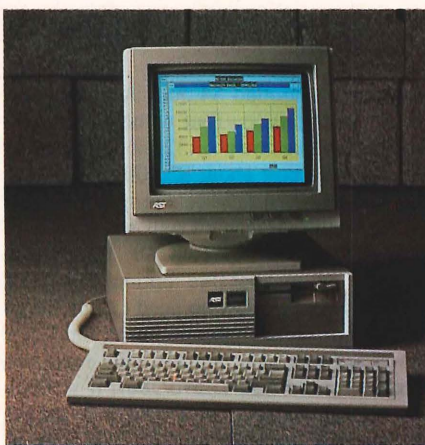
Being cramped for space in my home office, I prefer smaller computers. With the Bravo, I wasn't compromising functionality for size.

AST Premium 386SX/16 Model 45V

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$4,290

AST's Premium is the system to buy if you know that you are going to expand someday. This is a full-size computer with abundant expansion capabilities (six available slots). More significantly, however, the system's special architecture (called CUPID) lets users move up to a 20-, 25-, or 33-MHz 386DX microprocessor—or even an i486—by just replacing the microprocessor board. The system's components will work with any AST CPU board. The result is greater flexibility and relatively inexpensive upgrading (you can trade in your old CPU



board when you move up).

Like the Bravo, the Premium SX comes with 1MB of RAM (expandable to 4MB on the CPU board), a VGA graphics adapter, and a 40MB hard-disk drive. Plus AST includes the full complement of proprietary utilities: ASTMENU, ASTEMM, and AST-CACHE.

A wider selection of larger hard disks is available for the Premium than the other systems reviewed here. One other feature that sets this system apart is a small but genuine high-speed memory cache, like those found in expensive 386DX systems. This makes the AST Premium SX 10 to 15 percent faster than SX systems without this feature.

Dell System 316SX

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$2,499

Dell Computer has grown, in a few short years, from a small cottage industry into one of the leading mail-order suppliers of sophisticated personal computers. An integral aspect of Dell's product is excellent support: one-year warranty on parts and labor, with on-site service from Xerox.

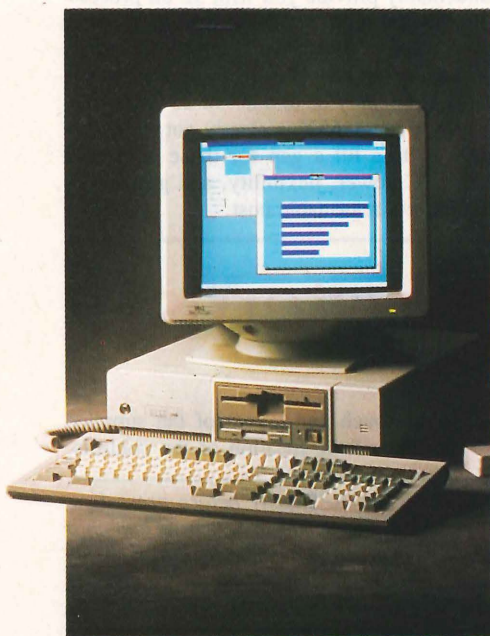
The 316SX recently replaced Dell's earlier SX model, the 316. It has a smaller footprint than its predecessor, and a smaller price tag as well. The system's top-notch printed documentation is typical of Dell products. Included is an excellent interactive, disk-based tutorial, "Getting Started with the Dell 316SX," which gives you valuable information about computers in general and the 316SX in particular. These tools make the Dell 316SX one of the easiest systems to get up and running.

The 316SX can be configured with the

usual options: extra RAM, additional floppy-disk drives, larger hard-disk drive, and VGA Color Plus monitor (800 by 600, instead of the standard 640 by 480) to match the built-in VGA adapter. The system's overall computing performance is, I feel, comparable to that of the other SXs reviewed here.

The Dell 316SX, like most compact designs, has a limited number of expansion slots (only three available). This may present a problem for users with sophisticated expansion needs, but three slots should be adequate for most people.

Dell's prices are somewhat higher than those charged by other mail-order computer companies, but Dell matches its higher price tags with the excellent quality of its systems, documentation, and support. Compare the price of the 316SX with that of any of the other computers reviewed here—even factoring in a 25 percent discount for the over-the-counter systems—and the Dell comes out ahead in value.



Seven 80386SX Systems: A Summary of Features

Each of the systems we review here is based on an Intel 80386SX microprocessor running at 16 MHz, with zero or near-zero wait states. All systems comprise a 5.25-inch, 1.2MB floppy-disk drive, a fast 40MB hard-disk drive, VGA display (card and color monitor), at least 1MB of RAM, a parallel port, a serial port, an enhanced keyboard, and MS-DOS.

We distinguish four types of expansion slots in these systems: PC (8-bit), AT (8- or 16-bit), CUPID (AST proprietary AT-style), and SM (special, or dedicated, memory slot). The chart also lists extra components supplied, such as a second serial port (2 S) or a mouse port (M).

The system prices quoted below do not necessarily coincide with manufacturers' suggested retail prices (SRP) due to configuration differences. To arrive at our system price, we added onto the manufacturer's SRP the cost of any equipment not normally included with that system (a VGA monitor, for example) but offered by that manufacturer as an option.

Company/Model	Rating	System's Suggested Retail Price ¹	Standard/System Memory ²	Floppy-Disk Drives	Hard-Disk Drive Capacity/Access Speed	Ports	Available Expansion Slots	Memory Caching	Footprint (wide/deep, in inches)	Warranty (months)
AST Bravo/386SX Model 45V	★ ★ ★	\$3,540	1MB/4MB	1	40MB/28 ms	P, S, VGA (16)	3 AT	n/a	15/15.25	12
AST Premium 386SX/16 Model 45V	★ ★ ★	\$4,290	1MB/4MB	1	40MB/28 ms	P, S, VGA (16)	2 CUPID, 3 AT, 1 SM	16K	19.25/16.5	12
Dell System 316SX	★ ★ ★	\$2,499	1MB/8MB	1	40MB/28 ms	P, S, VGA (16)	3 AT	n/a	15.1/15.6	12
Hyundai Super-386S	★ ★ ★	\$3,335	1MB/8MB	1	40MB/25 ms	P, S, M, VGA (16)	4 AT, 1 PC	n/a	15.6/15.2	18
Mitac MPC2386-041	★ ★ ★	\$3,689	1MB/8MB	1	40MB/28 ms	P, 2 S, VGA (16)	4 AT, 1 PC	n/a	14.8/16.5	12
Mitsubishi MP386s Model 640	★ ★	\$4,795	2MB/8MB	1	40MB/28 ms	P, S, M, VGA (16)	4 AT, 1 SM	n/a	15/15	12
NEC PowerMate SX Plus	★ ★ ★	\$4,398	2MB/2MB	1	42MB/28 ms	P, S, M, VGA (16)	3 AT, 1 SM	n/a	17/16	12

¹A 20 to 30 percent discount is available from most computer dealers; this should apply to all systems except the Dell (mail-order only); ²Maximum amount of memory that can be added to the motherboard without using a memory expansion card.

MANUFACTURERS

AST Research, Inc., (714) 863-1333; Dell Computer Corp., (800) 338-4400, (512) 426-5150; Hyundai Electronics America, (800) 727-6972, (408) 473-9200; American Mitac Corp., (800) 648-2287, (408) 432-1160; NEC Technologies, Inc., (800) 632-4636, (508) 264-8000; Mitsubishi Electronics of America, Inc., (213) 515-3993



Hyundai Super-386S

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$3,335

Since its entrance into the personal-computer business three years ago, Hyundai has managed to capture a respectable 4 percent of the PC market. This is an impressive achievement for such a young company.

Although I didn't fall in love with the Super-386S, it certainly qualifies as a sound, basic system at a middle-of-the-road price. The Super-386S comes with a 40MB hard-disk drive and 1MB of memory (expandable to 8MB on the system board) as standard equipment. It has three available expansion slots—two AT and one PC. The system I reviewed also had VGA graphics; the VGA color monitor was as sharp as comparable monitors.

Hyundai backs this system with an 18-month warranty, and dealer support is generally good. Hyundai has taken steps to go after the small-business market—you can lease this system from Hyundai, for example, and 24-hour, on-site service is available as an option (\$180 for the full 18-month warranty period).

Mitsubishi MP386S Model 640

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$4,795

The Mitsubishi MP386S is an attractive, compact system that comes with a good keyboard, a 40MB hard-disk drive, and a tack-sharp VGA monitor. There is also space for an optional 3.5-inch floppy-disk drive. The unit we got for review came with oodles of memory (8MB, all on the motherboard) and a math coprocessor, which speeds up many computing operations. These are definitely extra-cost options.

And cost is a key word in evaluating the MP386S. It's a nice system to work with—especially with all the extras—but the price somewhat dulls its appeal. The MP 386S is the most expensive system of the bunch, but the high cost doesn't seem to be justified by any special features.

If you shop carefully, you may be able to find deals that bring this Mitsubishi system in line with the competition, and in that case, it's a good buy.



Mitac MPC2386-041

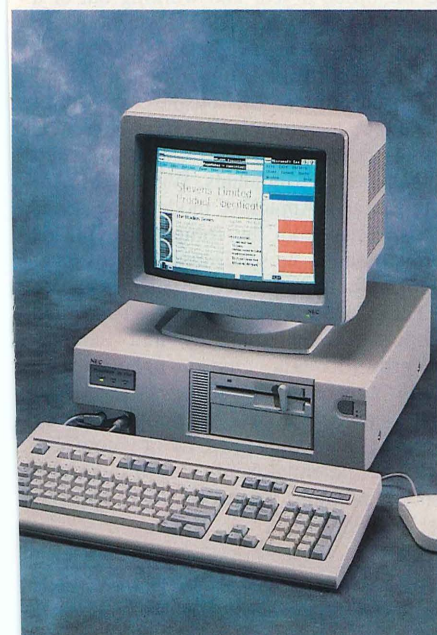
RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$3,689

The Mitac MPC2386 is the narrowest of the SX systems we reviewed. The six expansion slots are stacked vertically, as with many small-footprint designs these days, but Mitac also has an innovative approach to fitting drives into the box. The 5.25-inch floppy-disk drive goes in the standard, horizontal position, while the optional 3.5-inch drive goes in sideways, at the right-hand side of the case. There's also space for a second half-height 5.25-inch disk drive (hard or floppy) beneath the standard floppy drive. That adds up to plenty of storage options in a space-saving design.

The Mitac's basic configuration includes one parallel and two serial ports. The power switch and system reset button are located on the front of the computer, which is where they belong. The keyboard connector is also located in the front, a nice touch that makes it more convenient for users to lean back and work with the keyboard in their laps.

Mitac also offers the MPS2386, a Micro-Channel version of the unit we reviewed, for an additional \$100.



NEC PowerMate SX Plus

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$4,398

Unlike most of the SXs reviewed in this guide, the NEC PowerMate SX Plus has what I'd call a midsize footprint. Space saving is achieved, as with most compact designs, by stacking the system's expansion slots horizontally, but in the NEC design, this configuration primarily results in lower-than-average height. The PowerMate SX has five slots: one dedicated to high-speed memory and four for standard AT-style cards. One of the latter is occupied by the disk-drive controller, leaving three slots for actual expansion—which will be ample for most users.

The SX Plus comes standard with 2MB of memory: a plus. Unfortunately, that's all the RAM that fits on the motherboard. If you need more, you will have to purchase NEC's proprietary memory expansion board (starting at \$595), which fits in the dedicat-

ed high-speed memory slot provided and accommodates an additional 8MB. Thus, expanding beyond 2MB of RAM is substantially more costly with this system than with the others reviewed here.

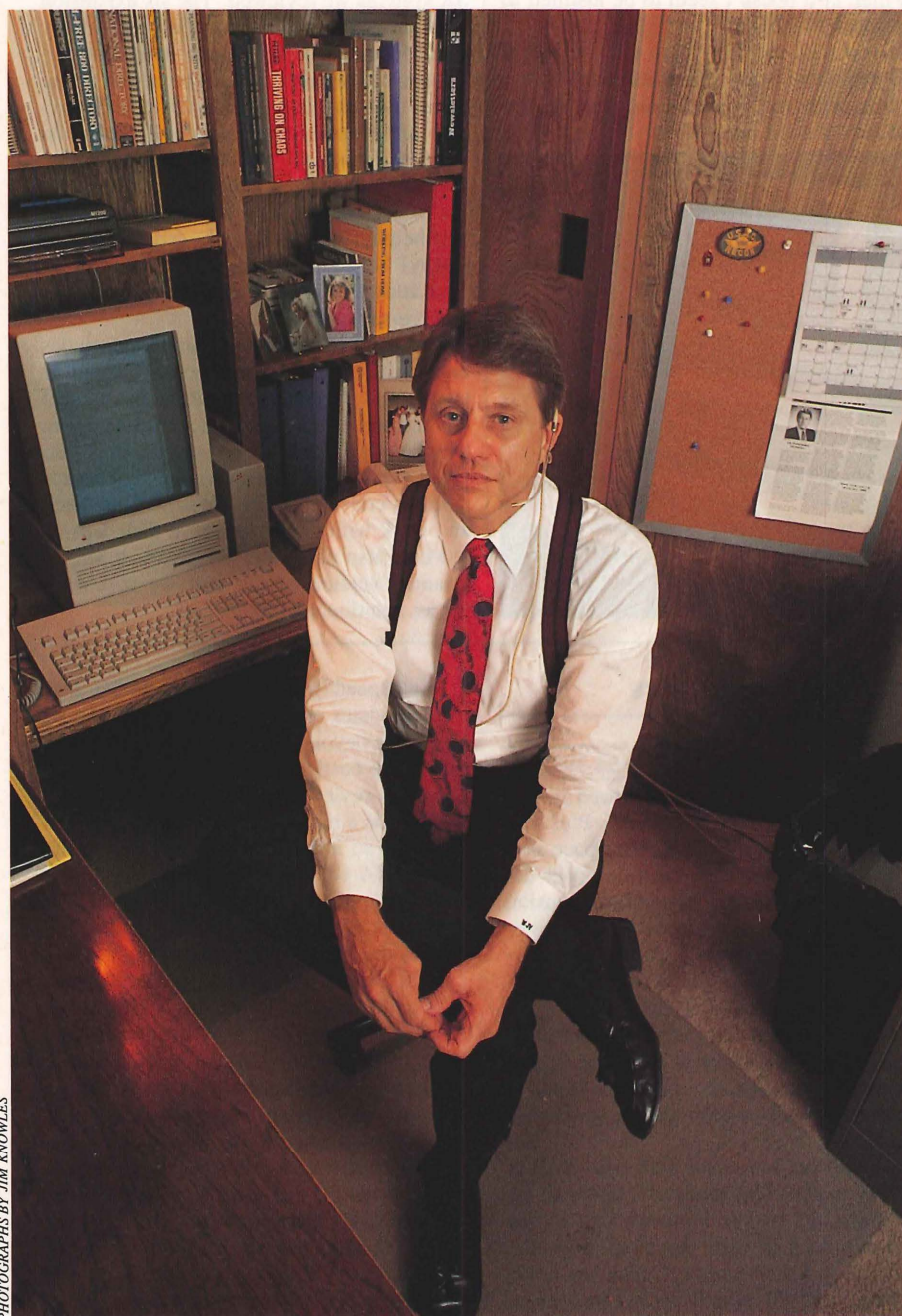
NEC has a reputation for making first-rate monitors, so it came as no surprise that the Super VGA color monitor (800-by-600 resolution) supplied with the SX Plus was one of the best of the bunch. It's one factor that justifies the SX Plus's relatively high price.

A little extra provided as standard equipment with the NEC unit is a PS/2-compatible mouse connector. It is located on the front panel, along with the power switch and the keyboard connector, as in the Mitac.

A final added bonus supplied with the SX Plus is a slightly customized version of Microsoft Windows/386. (There's really no difference from off-the-shelf Windows/386 except for the NEC logo on the opening screen.) If multitasking capability is one of the features that draws you to the SX, here's a system that comes equipped to do it. ■

Computerized Recruiter Targets Markets, Hunts for Clients

BY LAMONT WOOD



PHOTOGRAPHS BY JIM KNOWLES

SNAPSHOT

Bill Vick, 51, executive recruiter

BUSINESS: Vick and Associates helps microcomputer companies find and hire sales and marketing executives. Two full-time employees also work from home.

GROSS ANNUAL REVENUES: More than \$250,000

EQUIPMENT: Macintosh IIcx with Apple Portrait Display monitor; Apple LaserWriter Plus printer; AppleFax modem, Telebit 2500 modem; Murata 1200 fax machine; AT&T two-line phone with Plantronics headset

SOFTWARE: *Fourth Dimension*, *PageMaker*, *Microsoft Word*, *Quicken*, *Smart Alarms*, *Microphone III*, *BackFax*

OWNER'S VOICE: "I have a lot of empathy for the candidates. I treat people the way I would want to be treated—with honesty and integrity."

Three years ago, Bill Vick was paying his mortgage with his MasterCard. Today he's a self-employed executive recruiter, grossing more than \$250,000 a year and working out of a spare bedroom in his Tudor-style house in Plano, Texas, a suburb of Dallas. Needless to say, the mortgage is no longer a problem.

"I could not run this business the way I do without a computer," says Vick, who uses his computer to land clients and find and prepare job candidates. With his Macintosh IIcx and AppleFax modem, he sends faxes directly from the computer. With his Murata modem, he sends and receives electronic mail, and researches databases such as Dialog, Dow Jones News/Retrieval, and CompuServe for company and industry background. His custom-programmed *Fourth Dimension* database stores about 3,000 detailed records. "It's my inventory of contacts and companies, all of whom are, or will be, potential candidates or clients. It costs me nothing, yet it constantly appreciates," Vick adds.

LAMONT WOOD, a freelance writer specializing in computer-related topics, lives in San Antonio, Texas.

Indeed, each name can bring him \$10,000 or more. As an executive recruiter, Vick works for corporations on a contingency and retainer basis, locating just the right candidate for an executive position. If the candidate gets hired, Vick gets a fee equal to about 30 percent of the candidate's first year's salary. (The fee is always paid by the hiring corporation—the candidate pays nothing.)

"I'd say 15 to 20 percent of all recruiters work for themselves out of their homes," says Paul Hawkinson, publisher of the St. Louis-based *Fordyce Letter*, a newsletter that serves the recruiting industry. Hawkinson figures that at least half of the 28,500 recruiting firms are computerized (more, if you count word processors) and a good 70 percent of the home-based recruiters are. "Home-based recruiters spend their productive time on the telephone—time is really all they have to sell," he notes. Vick, for instance, says he makes and receives about 80 phone calls a day. He uses the *Smart Alarms* scheduling program to make sure he doesn't miss phone appointments.

FROM COSMETICS TO COMPUTERS

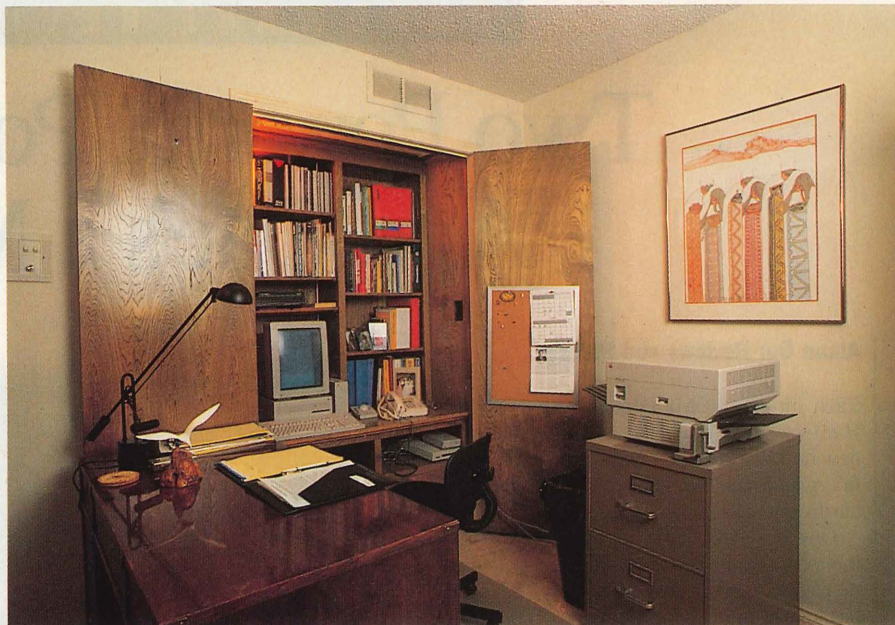
Vick's route to a recruiting career was circuitous. He spent 15 years as a sales manager in the cosmetics industry, primarily with Revlon. Revlon moved Vick and his family (a wife and two daughters) to Plano 10 years ago. Vick became an early computer hobbyist and bought a Tandy Model 1. Eventually, as part of what he jokingly refers to as a "mid-life crisis," he left the cosmetics field and became co-owner of Shepard & Vick, a chain of computer stores in Dallas.

But then the IBM PC came along and a chain had to carry it in order to survive. Shepard & Vick didn't carry it, and Vick decided to sell out. He then worked in various consulting and marketing capacities in the computer industry, and when his last employer went under, he needed a job fast. He went to work for the Dallas office of a national firm called Management Recruiters.

"For the first three months nothing happened—it was utterly frustrating," Vick recalls. "It was not that the job was so hard; I just had to act dumb and ask coworkers a lot of basic questions. The height of professionalism, I found, is to appear to be an amateur. Now, I demand explanations for everything."

Vick went on to become the most successful recruiter in the company's 27-year history. After three years, he left to form his own firm, seeking a "more professional and remunerative level of business." He also found that recruiting was extremely "portable" and decided to try working from home. Three years later, he finds the work so portable that he and his wife are planning to move to Lake Tahoe.

Vick now specializes in finding sales and



The national headquarters of Vick and Associates, a \$250,000 firm, fits snugly in a spare bedroom in Vick's house, a true testament to the power of technology.

marketing executives for firms selling "emerging technologies." Since the Macintosh market has been emerging over the last few years, it provides for about half his business. Vick counts many of the top Macintosh third-party hardware and software firms as his clients. But even this niche is getting too big for comfort—he is thinking of specializing even further, perhaps in the optical-storage, color-laser, and NeXT computer markets.

A WINNING SCHEDULE

Vick gets up at 5:30 a.m. and goes swimming at a gym. He's in his office by 7:30, prints out a schedule for that day and starts making phone calls. He follows the sun on the phone, moving westward through the time zones—he does 60 percent of his business in California. At 11:30 a.m., he goes back to the gym. (He's 51 years old, but looks 35.)

At 4:45 p.m. he generates a recap of the day for himself, and goes to dinner. At 7:00 p.m. he's back at the office, reading and replying to his electronic mail and then spending a couple of hours calling candidates at home.

Vick is proud that he runs a virtually paper-free business. He sends faxes and electronic mail through the computer. Though he receives paper faxes, the only ones he files regularly are résumés from prospective candidates. "My fax machine went from being a luxury to a necessity in the first six months. I get six or seven résumés a day—about two in the mail and four by fax. And I get one via electronic mail every other day." He plans to eventually store them on an optical disk, reducing the paper in his office even more.

Vick has two full-time home-based em-

ployees, both recruiters, each of whom he equips with a computer, software, and a modem. "They've got a subset of my system; all faxes come to me." One researches companies, the other identifies possible job candidates in those companies—people who are qualified and prepared to change jobs. Vick handles things from there.

Vick talks to each candidate at least four times before sending him or her on an interview. He also goes on-line to research a company and its products, and types up a report to help prepare the candidate for the job interview.

DIRECT-MAIL MARKETING

Vick is careful to maintain a corporate image, using desktop-publishing software to produce his stationery and invoices and put out a quarterly newsletter, *The Recruiter*. He writes and designs the one-page newsletter with Microsoft Word and PageMaker, has it typeset and printed, and sends it to 1,500 people who might someday need his services. He estimates that it takes him about six hours and costs between \$1,500 and \$1,800 to produce what has been an extremely effective marketing device.

He sent an even more targeted mailing to 50 companies who exhibited at MacWorld in Boston last August. The envelopes were marked "Confidential," so secretaries wouldn't open them. Inside was a box of Vicks' cough drops and a 4-by-9-inch card that said, "We can help cure sick sales." The mailing got a 3 percent response; Vick figures that the \$200 he spent will earn him \$30,000.

"Anything is possible if you have the discipline and the technology," says Vick. Whether you live in Los Angeles, Plano, or Lake Tahoe. ■

Two Powerful Portables, And One's a Mac

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

- Poor
- ★ Average
- ★★ Good
- ★★★ Very Good
- ★★★★ Excellent

An Apple for The Road

Apple Macintosh Portable

Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014; (408) 996-1010, (800) 538-9696

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$5,799 (\$6,498 with 40MB hard-disk drive)

MICROPROCESSOR: Motorola CMOS 68000 (16 MHz)

MEMORY: 1MB, expandable to 2MB

DISK DRIVE: 3.5-inch 1.44MB SuperDrive

DISPLAY: Active matrix LCD, 640 by 400 pixels
PORTS: Video, external drive, SCSI, Apple Desktop Bus (ADB), printer, modem, audio

FREE EXPANSION SLOTS: One

SOFTWARE INCLUDED: System 6.0.4, HyperCard 1.2.5, Inside the Macintosh Portable HyperCard stack, Macintosh Portable Product Sampler HyperCard stack



OPTIONS: 40MB, 25 millisecond internal hard-disk drive (\$1,199); 2400-bit-per-second internal modem (\$449); 1MB additional RAM (\$649); additional battery pack (\$49); AC adapter/battery recharger (\$129); numeric keypad (\$69); external SuperDrive (\$499)

DIMENSIONS: 4 by 15.25 by 15 inches

WEIGHT: 13.75 pounds (with battery); 15.75 pounds with hard-disk drive

WARRANTY: 90 days

The long-awaited Macintosh Portable has arrived. Apple's first true traveling computer is a well-thought-out, all-in-one design that puts a full-size keyboard at your fingertips, a first-rate display in front of your eyes, and considerable computing power at your disposal.

The Portable can run virtually any Macintosh software application and connect to most Macintosh networks or peripherals. It works like a Mac and feels like a Mac (the built-in track ball, which substitutes for the mouse, was easy to adjust to); therefore, it

must be a Mac. And it is—it's a full-fledged Macintosh with few performance compromises. Unfortunately, compared to today's crop of MS-DOS laptops, it's overweight, overpriced, and somewhat oversized.

Built around a 16-MHz CMOS version of the Motorola 68000 microprocessor, the Portable runs about twice as fast as a standard Macintosh SE. I found its overall performance excellent; I never felt like I was waiting for the computer.

The Portable's liquid crystal display uses a brand-new technology called active matrix, with a separate transistor for each pixel on the screen. The result is a speed and contrast unmatched by any other LCDs I have seen. New images snap into place in rich, dark black. The display is readable from a wide range of viewing angles and works well in bright to moderate lighting conditions. Unfortunately, Apple engineers decided (presumably to save power) that the display was good enough to do without backlighting, a questionable decision that might better have been left to users. (Apple could have provided backlighting and a switch.)

Battery life was a major concern in the portable's design. Apple engineers decided to go with lead-acid batteries, which, though heavy, provide longer life and quicker recharging than the nickel-cadmium batteries found in most other portable computers. While Apple claims a battery life of six to ten hours, I found it to be mu-

REVIEWED IN THIS ISSUE

Portable Personal Computers:

Apple Macintosh Portable
Toshiba T5200/100

Dot-Matrix Printer:

AEG Olympia NP 80-24

Facsimile/Telephone Answering Machine:

Toshiba 3600

Cordless Telephone:

Cobra CP-478

shorter in actual use with the hard-disk drive installed—more like four to five hours, which is still quite good.

The Portable has sophisticated power management—intended to prolong battery life. For example, when the computer hasn't been used for four minutes, it automatically goes into "sleep" mode. Pressing any key returns you to the file you were previously using.

If you opt for the optional hard-disk drive (it's difficult to conceive of the computer without it), Apple will initialize it at the factory and install Apple System Software version 6.0.4 and *HyperCard*. The Portable is housed in rugged but lightweight polycarbonate plastic, and Apple includes (at no extra cost) a zippered, padded carrying case with room for disks, papers, and even a portable printer.

This makes the unit more convenient to tote. But it still doesn't make it easy. My shoulder hasn't yet recovered from a recent trip through the airports in New York, Cincinnati, and San Francisco. The Macintosh Portable weighs almost 16 pounds with the hard disk installed—about 30 percent more than equivalently equipped MS-DOS laptops.

Then there's the price. All Macintoshes are overpriced, but at nearly \$7,500 for a complete system (with maximum memory, hard disk, and modem), the Portable seems to be vying for the questionable honor of being the most overpriced Mac of all.

So who needs this computer? It's for those who must work with a Mac away from an AC power source. And the Portable strikes me as a great tool for salespeople—it can handle visual presentations with aplomb, plus any order-entry and telecommunications chores that might come up during a sales visit.

The bottom line is that any Mac devotee would undoubtedly love to own a Macintosh Portable—even for use around the home office. Given economic reality, though, most of us who really need an on-the-road computer will probably continue to make do with lighter, lower-cost MS-DOS laptops. If Apple could see its way to dropping the price \$1,000 or so, that would probably change.

—JORDAN GOLD

CIRCLE READER SERVICE 101

Luggable Powerhouse

Toshiba T5200/100

Toshiba America Information Systems, Computer System Division, 9740 Irvine Blvd., Irvine, CA 92718; (714) 583-3000, (800) 334-3445

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$8,299 (\$7,699 with 40MB hard-disk drive)

MICROPROCESSOR: 80386 (20 MHz); socket for 80387-20 coprocessor

MEMORY: 2MB expandable to 8MB in 2MB increments without using expansion slot; high-speed 32-bit dedicated memory bus; 32K high-speed static memory cache

DISK DRIVES: 100MB hard-disk drive with 25-millisecond access time; 3.5-inch, 1.44MB floppy-disk drive

DISPLAY: Detachable 640-by-480 pixel VGA-compatible gas-plasma display; 16 gray levels

PORTS: Selectable parallel printer/5.25-inch floppy-disk drive; two 9-pin RS-232C serial; VGA monitor

FREE EXPANSION SLOTS: One full-length, 16-bit, IBM-compatible; one dual-function, half-length that can be used for either an IBM-compatible 8-bit card or a Toshiba 16-bit card

SOFTWARE INCLUDED: MS-DOS 4.01; *PC-Kwik Power Pak*; *Quarterdeck Expanded Memory Manager 386*

OPTIONS: 1200-bit-per-second (bps) internal modem (\$349); 2400-bps modem (\$399); 2MB memory module (\$999); external 5.25-inch, 360K floppy-disk drive (\$499)

DIMENSIONS: 14.6 by 3.9 by 15.6 inches

WEIGHT: 18.7 pounds

WARRANTY: One year

Designed to put the most sophisticated computing capability into the hands of on-the-run users, the Toshiba T5200/100—a 20-MHz 80386 with a fast 100MB hard-disk drive—runs rings around most desktop computers. It is certainly one of the fastest portables on the market (although not one of the lightest; more on this later).

To complement its formidable processing prowess, the T5200/100 provides 2MB of memory, expandable to 8MB on the motherboard—and way beyond, using a proprietary 32-bit expansion card. With this combination of speed, memory, and storage, power users should be able to handle all the

most demanding applications associated with CAD/CAM and financial modeling and database management on a grand scale.

The T5200/100, like a BMW, is more than just a hot performer. As befits a machine in this luxury class, it looks thoughtfully designed, inside and out. For example, the seductively soft gray case is fitted with a combination lock—a neat touch. The interior appointments are also designed to high standards.

The computer's full-size keyboard is laid out in enhanced AT style, with the function keys across the top, but it lacks dedicated cursor-movement keys. Instead, these keys are part of the numeric keypad, as on an XT-style keyboard. If the touch were just a bit firmer, I would rate it superb. As it is, I'd say it's quite good.

"Easy reading" best describes the text display on the VGA-compatible gas-plasma display. Viewing is best from directly in front of the computer, but there is as much latitude in viewing angles as with any standard monitor.

Simple graphics, like pie charts and bar graphs, look fine on the T5200's screen, but I wouldn't recommend this display to anyone who works much with sophisticated graphics. The T5200 offers a way around this problem, though: A connection is provided for an external VGA monitor. If desired, the gas-plasma display can be removed so that the external monitor can sit on top of the computer. This is fine, but it adds to the system's cost and detracts from its portability.

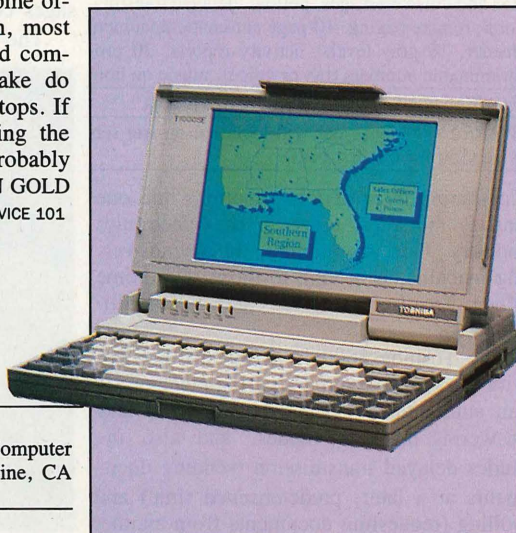
How portable is the T5200? Well, a laptop it's not. This computer's size and weight take it far out of the class of boxes you'd like to rest on your knees. And none of that weight is batteries, either. The T5200 runs only from an AC outlet. This unit is designed to be carried from place to place, but when it gets where it's going, it has to sit on a desk, next to an outlet.

There's a positive trade-off for AC-only operation, though: The physical space that batteries would occupy in the T5200 is devoted to a pair of IBM-compatible expansion slots.

Toshiba supplies MS-DOS 4.01 with the T5200, along with two other software goodies. One of these is hypertext on-line, disk-resident documentation, including T5200 reference and MS-DOS 4.01 manuals. The other is *Quarterdeck Expanded Memory Manager 386*, which lets users run application programs written to take advantage of LIM expanded memory.

The T5200/100's power and amenities do not come cheap. Its \$8,399 price tag is enough to deter most people. Fortunately, deep discounts are the order of the day in the portable industry. —ROGER LANCTOT

CIRCLE READER SERVICE 102



Feature-Filled Dot-Matrix Printer

AEG Olympia NP 80-24

AEG Olympia, 3140 Rte. 22, Box 22, Somerville, NJ 08876; (201) 231-8300, (800) 777-0912

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$599

HARDWARE REQUIREMENTS: Any IBM-compatible computer with serial or parallel port and cable

TYPE: 24-pin impact dot-matrix

INTERFACES: Centronics parallel, RS-232C serial

PRINT SPEED, DRAFT: 200 characters per second (cps) at 12 characters per inch (cpi)

PRINT SPEED, NEAR-LETTER QUALITY: 67 cps at 12 cpi

GRAPHICS RESOLUTION: 180 by 360 dots per inch

BUILT-IN FONTS: Courier, OCR-B (optical character recognition), Prestige, Gothic, Optimo, draft

PITCHES: Fixed (5, 6, 7.5, 8.5, 10, 12, 15, 17.1, and 20 characters per inch) and proportional (normal, expanded, and condensed)

EMULATIONS: Epson LQ, IBM ProPrinter

PAPER HANDLING: Push tractor and friction

PAPER WIDTH: Minimum 4 inches; maximum 10 inches

BUFFER: 24K, expandable to 56K

OPTIONS: Single-bin automatic sheet feeder (\$219), dual-bin upgrade for sheet feeder (\$159), font cartridge with three fonts (\$149), 32K buffer expansion (\$40)

DIMENSIONS: 5.1 by 17.1 by 13.8 inches

WARRANTY: One year

With laser printers the glamour gadgets these days, what's the appeal of impact dot-matrix, an already "ancient" printer technology? The most obvious answer is price. High-quality, feature-laden impact dot-matrix printers cost about a half or a third of the price of lower-end laser printers. Another answer is that there are tasks, such as printing multipart forms, that only impact printers can handle.

The AEG Olympia NP 80-24 belongs in the top ranks of 24-pin printers. It won't deliver as wide a range of typefaces, type styles, and type sizes as a laser (or ink-jet) printer, but with a fresh ribbon, the Olympia turns out a handsome page, more than acceptable in most business situations.

Actually, for a dot-matrix, the Olympia offers a pretty substantial selection of built-in type styles, including several letter-quality fonts. Any of six built-in typefaces can be selected from the front-panel menu system—a membrane keyboard and liquid crystal display; your word-processing software

will handle normal print enhancements (bold, italics, and so on) in the usual way. The same menu also lets you set or reset any of the printer's other numerous defaults—such as pitch, character set, and interface type. You can get a printout of the defaults if you wish.

In case your software provides no driver for the Olympia NP 80-24, the printer emulates both the Epson LQ and IBM ProPrinter lines and works equally well with both drivers. No hitches, glitches, or missteps.

There are, of course, faster dot-matrix printers available (no 24-pin model is terribly fast). And, inevitably, the real-world print speed of this model is lower than advertised. Still, in draft mode, the printer whizzes right along. In letter-quality mode—the one you'll probably use most often—print speed is, well, acceptable.

One special virtue of this printer is its paper handling. The AEG Olympia offers both tractor (fanfold) and sheet feed—with

both methods installed at the same time. That is, you can feed individual sheets while leaving the fanfold paper in place. This is a big improvement over earlier designs that allowed only one paper-feed system on board at a time.

Documentation is not one of the Olympia's strong points. There are two slim, unindexed, sorry excuses for manuals. Fortunately, there's not much involved in setting up the printer; the manuals will get you through the process. In most cases, the factory defaults are suitable. A test print feature shows off the typefaces.

The principal disadvantage (to impact printers in general, not this printer in particular) is the noise level.

Making allowances for this unavoidable annoyance, the NP 80-24 does its job very well indeed. It's a handsome, sturdy machine, loaded with fonts and features, capable of producing professional-looking documents.

—HENRY F. BEECHHOLD

CIRCLE READER SERVICE 103

Top-Notch Fax With Answering Machine

Toshiba 3600 Facsimile/Telephone Answering Machine

Toshiba America Corp., 9740 Irvine Blvd., Irvine, CA 92718; (714) 583-3000, (800) 334-3445

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$1,495

COMPATIBILITY: Groups 2 and 3

DOCUMENT WIDTH: 8.5 inches

RECORDING PAPER SIZE: 98 feet

TRANSMISSION SPEED: 9600 bits per second

FEATURES: Telephone answering machine with fax and voice messages, polling, delayed transmission, remote paging, 10-page automatic document feeder, 16 gray levels, activity reports, 30 programmable numbers (fax or voice), music on hold

DIMENSIONS: 13.8 by 10.6 by 5.2 inches

WARRANTY: One year with optional on-site service (\$50 for the first year)

Combining three or four functions into one unit is the latest craze in the electronics industry. One new combo, the fax/answering machine, is a boon to those with home offices because one device can handle multiple tasks.

The Toshiba 3600 is a full-function fax with a feature-packed answering machine. It can automatically switch between fax and answering machine modes, and also includes delayed transmission (sending documents at a later, predetermined time) and polling (requesting documents from another

fax machine). No fax/answering machine, the 3600 included, is easy to set up—there are dozens of tedious procedures involved. But once you plow through all the steps, the unit works like a charm.

The 3600 doesn't take up much room on a desktop, and since the output tray is in front of the machine, it's easy to see if there's a fax waiting for you. I wish it had a paper cutter, but then, none of its competitors do. The document feeder can hold up to 10 pages for transmission. Its polling function works well, but you can use its security code feature only if you're communicating with another Toshiba fax machine.

The built-in answering machine has all the functions you'd expect. Its most striking feature is remote paging, a form of call forwarding: You can set up the unit to call you at another phone whenever any messages come in.

The 3600's remote capability lets you call



from any touch-tone phone and access any of the answering machine's functions.

Even though setup was no piece of cake, I still recommend the Toshiba 3600. It's a top-notch fax/answering machine that does what it promises.

—STEPHEN MILLER

CIRCLE READER SERVICE 104

Two Phones in One

Cobra CP-478

Cobra Electronics Group/Dynascan Corp., 6500 W. Cortland St., Chicago, IL 60635; (312) 889-8870, (800) 262-7222

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$180

TYPE: One-line cordless with speakerphone

FEATURES: Dual keypads, digital security coding, speakerphone, last-number redial, flash button, pulse and tone dialing

DIMENSIONS: 4.5 by 8.5 by 2 inches

WARRANTY: One year

Is your work space so clogged with cords and wires that you feel like a fly caught in a spider's web? Have no fear. This Cobra phone combines the convenience of a cordless telephone with that of a speakerphone, without a high price tag.

Certainly the best feature on the CP-478 is its dual keypads. The second keypad, which is on the recharging base, allows the speakerphone to be used independently.

The CP-478 handset delivers good sound quality with minimum interference. My Manhattan apartment is a notoriously hostile testing ground for cordless phones. However, I found the Cobra to have a greater effective range than most other models I've tried in the past. In my most stringent test—dialing from street level while the base remained upstairs by my third-floor window—the CP-478 maintained a reasonably clear signal from as far away as one city block. It should have plenty of range for average, day-to-day use.

The sound quality of the speakerphone is average—it does the job. The controls are large and easy to use. And with the second dialing keypad, the base unit can be used as a separate extension.

For those of you concerned that anyone else with a cordless phone might be able to listen in on private conversations or make use of your phone line, the Cobra offers security features. The first, Secur-Loc, keeps the base from receiving neighbors' calls on your frequency while the handset is charging. The second, digital security coding, allows you to assign a three-digit security code to the system. This identifies the handset to the base and vice versa.



The CP-478 is a well-built unit. The base is solid and has held up to more than its fair share of accidental knocks and kicks. And, after the required 12-hour charging period, I never had to switch to a regular phone because of failing batteries.

The rest of the Cobra's features are pretty standard—automatic redial, for example. Something that is noticeably missing from the CP-478 is a mute button. I've come to rely on this feature, especially when working from home. Aside from this, however, the CP-478 is a high-quality telephone for anyone who wants cordless and speakerphone convenience.

—STEVEN WILLIAMS

CIRCLE READER SERVICE 105

This is as low as fax gets: \$195

\$195 9600-bps fax board for your PC! Wow!

Ready for PC FAXING? Well, you've come to the right ad. If you've got a PC with an empty half slot, pick up the phone and get your order in for the new **Fremont FAX96**. \$195 plus tax and shipping.

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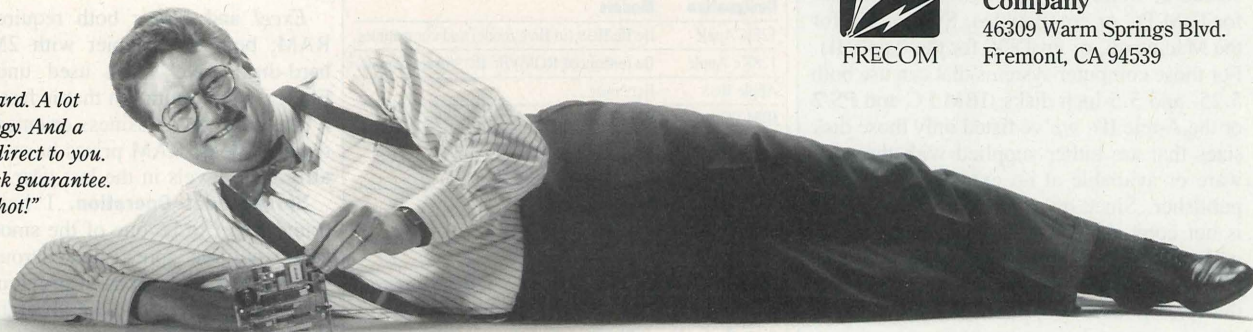


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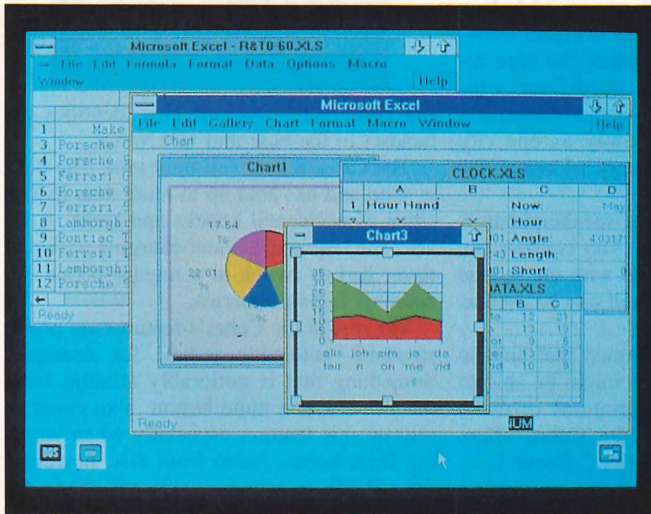
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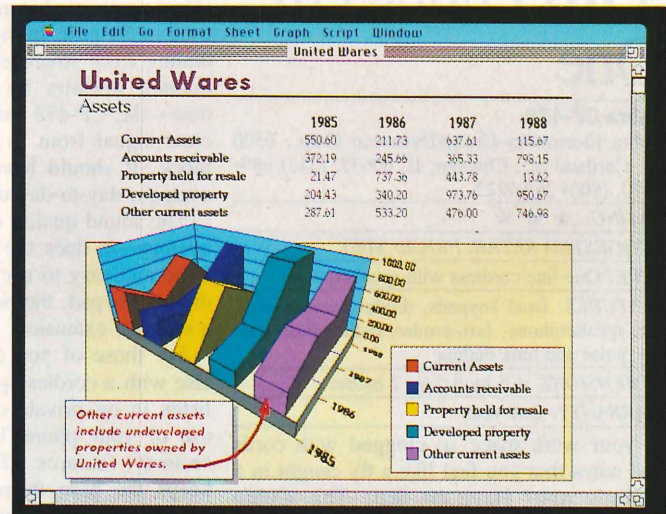
Paul Masters, UC Berkeley MBA and Northern Telecom alum, is President of Fremont Communications.

Macintosh Spreadsheets Square Off

Excel versus Wingz



Excel, the classic Mac spreadsheet, crunches your numbers with finesse.



Wingz's graphics capabilities make it easy to transform your data into vivid, presentation-quality charts.

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"—where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicated—with the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

The word "spreadsheet" is nearly synonymous with the word "business" these days. Spreadsheet software is an essential and flexible tool that will help you draw up a budget, track income, and generate reports and charts for presentations. Today, creating a spreadsheet no longer requires a degree in mathematics. Most spreadsheets are almost as easy to learn and use as simple word processors.

In the Macintosh world, there are three main contenders in the battle for the spreadsheet market: Ashton-Tate's *Full Impact*, Microsoft *Excel*, and Informix's *Wingz*. Since I previously reviewed *Full Impact* (see "Full Impact for Full Reports," August 1989), it is now time to give *Wingz* and *Excel* a chance to duke it out.

Designation	Models
128K Apple	Ile/Ic/IIGS (in Ile/c mode) and compatibles
128Ke Apple	Ile (enhanced ROM)/Ic/IIGS (in Ile/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key: ○ Poor; ★ Average;
★★ Good; ★★★ Very good;
★★★★ Excellent.

A Bit of History. *Excel* has been a big seller since its original release. Its ability to link data files and extensive macros electronically makes it a versatile tool for most spreadsheet users. At the outset, however, *Excel* had limitations: The program could not utilize more than 1MB of RAM and, despite two rapid-fire updates, it was touchy under MultiFinder, sometimes refusing to load, quitting unexpectedly, and even denying access to the Chooser or Control Panel under certain conditions.

The next few versions of *Excel* attempted to ease users' qualms, but the competition did not remain idle. Ashton-Tate introduced *Full Impact*, which was followed by *Wingz* from Informix. Both programs promised faster operation, better graphics and reports, slicker macros, and integrated text capabilities.

Excel and *Wingz* both require 1MB of RAM; both are happier with 2MB and a hard-disk drive when used under MultiFinder, a configuration that is fast becoming a standard for business-oriented applications. At least RAM prices have dropped to affordable levels in the last year.

Spreadsheet Operation. I have always found *Excel* to be one of the smoothest and most intuitive spreadsheets around. Now the memory limitations of previous versions have disappeared, and the program is happy to use all the RAM you choose to make available to it. *Excel* ran solidly for me

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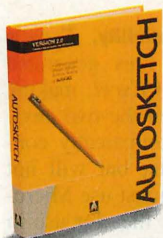


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under MultiFinder without interfering with the Control Panel or other desk accessories.

Microsoft has also improved memory management: With 2MB of RAM, I was able to fill more than 250,000 of the program's 4.2 million cells (256 columns by 16,384 rows), more than most users would ever need. The new program runs about 40 percent faster—a boon when crunching lots of numbers on a slower Plus or SE without a math coprocessor. The program also incorporates powerful but hard-to-learn macros.

Another major improvement lets you choose a default font other than 10-point Geneva and use up to 256 different fonts in any available size and style. Also new is the Note command that allows you to attach notes to cells. These new features make it much easier to create presentation-quality summary tables, a major stumbling block in the previous versions.

The *Wingz* display looks like any other spreadsheet, with the addition of a row of tools on the left side of the screen to handle graphics, charting, and text. *Wingz* is even bigger than *Excel*, with more than a billion cells (32,768 rows by 32,768 columns) as opposed to *Excel*'s 4.2 million. *Wingz* has a broad range of advanced financial, mathematical, and text-handling functions, such as net present value, loan term and payment calculation, and a mini word processor.

are buried more deeply than I would prefer. In the spreadsheet, for example, I found the Format menu frustrating, as I had to keep going back to select options.

Wingz's spreadsheet capabilities don't quite measure up to *Excel*'s. With 2MB of RAM, I could only fill about 80,000 cells: more than enough for most purposes, but far fewer than I can fill with *Excel*. And file-linking capabilities are much weaker than *Excel*'s; *Wingz* requires a linked file to be open to update data and does not support linking named ranges.

Wingz's formatting options are not as complete as *Excel*'s and cannot be customized—a surprising shortcoming in view of the publisher's emphasis on display flexibility. And while *Wingz* has a few useful business functions that *Excel* lacks, such as bond price, yield, and future value of a lump sum, many of *Excel*'s powerful array-handling capabilities are missing.

Charts. *Excel*'s charting functions have improved, yet they remain less than stellar. It is still tricky to plot data on the intended axis. In addition, charts are separate from worksheets and the two cannot be combined for printing—even if they could be sized precisely.

Wingz's charting beats *Excel*'s hands down. In addition to doing more types of charts, *Wingz* allows you to size and place

charting to *Excel*, my first choice for everyday jobs would be *Full Impact* because of its simpler and more intuitive operation with basic chart types.

Where *Wingz* Flies Solo. *Wingz* lets you create and integrate object-oriented graphics and word-processing areas on the spreadsheet. The capability to create reports combining words, numbers, charts (including three-dimensional charts), and pictures is a real boon to users who produce presentations from the information they manage.

The graphics tools (straight line, rectangle, oval/circle, and polygon) and the extensive control over colors, lines, and patterns give *Wingz* the power of a basic draw program. Objects can be named, layered, and grouped to facilitate editing and placement, and images created with an advanced draw program or scanner can easily be pasted in, sized, and placed.

To be fair, *Excel* does not completely lack text processing. The new Justify command lets you enter text into one or more cells, then select the range of cells that you want the text to occupy. The text will then "flow" into that area. This command is better than nothing at all, but is extremely limited, as there are no editing or formatting capabilities.

Documentation. *Excel* includes a large reference manual and a tutorial, which was not included with the upgrade package I received for review. The documentation is good for a program of this complexity, but the reference manual is short on examples to illustrate some of the more complex functions (although there are more in the tutorial). Also, the language tends to be too technical for my taste. Many users will find it useful to supplement the manual with one of the many books available on *Excel*.

Wingz's documentation consists of a user's guide (basically a tutorial), a reference manual, and a HyperScript manual. The manuals are generally good, but lack clear illustrations. My biggest complaint is that some common procedures, such as adding labels and overlay data to charts, are covered in the tutorial but not in the reference manual, making it necessary to keep both books at hand.

File Formats and Compatibility. *Excel*'s files are compatible with files generated with the MS-DOS version of *Excel*, making it easy to share data between the two environments. The program automatically converts the older Mac formats, but will not save in the old format; you must use Microsoft's SYLK format to save files for use in *Excel* 1.5 or earlier. *Excel* will also read and write files in 1-2-3 formats (WKS and WK1), as well as various text (ASCII) formats, making it easy to share files with users of other spreadsheet, database, and word-processing programs. *Excel* cannot

Excel

VERSION REVIEWED: 2.2

SYSTEM REQUIREMENTS: 1MB Macintosh; hard-disk drive; System 6.0.2 (Macintosh IIcx and SE/30, System 6.0.3 or higher)

PUBLISHER: Microsoft Corp., 1 Microsoft Pl., Redmond, WA 98052; (206) 882-8080

PRICE: \$395

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

Wingz

VERSION REVIEWED: 1.1

SYSTEM REQUIREMENTS: 1MB Macintosh; two drives (hard-disk drive recommended); System 6.0.2

PUBLISHER: Informix Software, 4100 Bohnannon Dr., Menlo Park, CA 94025; (415) 926-6300

PRICE: \$399

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★

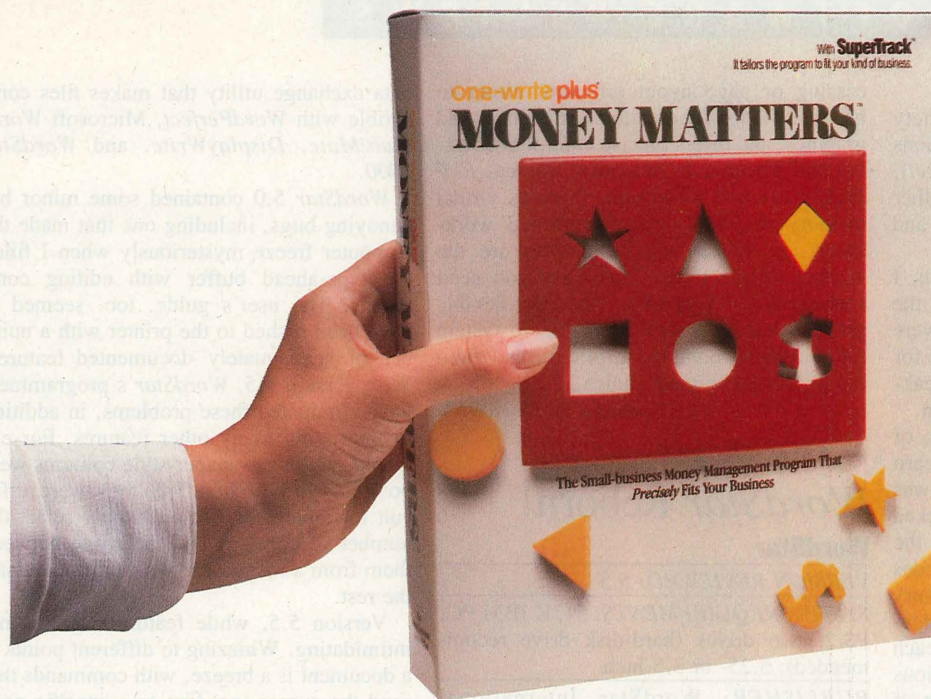
SUPPORT: ★ ★ ★

Worksheet display options abound, enabling you to customize the appearance of a document in nearly every conceivable way, including adding up to 16.7 million colors if your system supports that many (*Excel* only uses eight colors). *Wingz* includes a powerful HyperScripting macro language.

Despite its size and rich array of features, *Wingz* is fast and flexible. The program has many more commands than *Excel*, yet the basic menu structure remains uncluttered because of its cascading menus (menus with submenus). Certain commands, however,

your charts directly on the worksheet, completely integrating the printing process.

Despite all the extra charting power, doing simple charts is not as easy as it could be. My work frequently involves lots of basic bar charts, which I annotate and lay out side by side. The *Wingz* method of achieving this involves a lot of extra keystrokes, too much switching back and forth between chart and worksheet modes, and frequent sifting through cascading menus. It is not difficult, but I found it tedious and error-prone. While I definitely prefer *Wingz*



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read or write in *Wingz*'s format.

Wingz can read and write files in a variety of formats, including both common versions of 1-2-3 (but, strangely enough, not *Excel*), making it easy to coexist with users of other popular programs, including databases and word processors.

The Ratings. When I toted up my results, I was somewhat surprised to find that the overall ratings for the two programs were almost identical and very similar to those for *Full Impact*, though the strengths and weaknesses of all three programs are different.

Excel falls short of excellent because of its charting shortcomings, hard-to-learn macros, and primitive text handling. I was unable to induce any errors, but knocked error handling down a point because the program does not document the error codes that show up on-screen. Support is very good: Microsoft tech support is knowledgeable, helpful, and reasonably easy to reach (although you pay for the call). The various Microsoft newsletters provide a wealth of information, and upgrade notices arrive like clockwork.

Overall, *Wingz* earns three stars as a graphics spreadsheet. It is powerful and convenient in ways that *Excel* cannot approach, but its file-linking problems and occasionally tedious operation make it less than ideal as a straight spreadsheet. Error handling is not quite excellent, as the descriptions the program provides for error codes are so cryptic they might as well be nonexistent. It's good that the program doesn't bomb when it encounters a problem, but in order to earn an excellent rating, it should clearly tell you what happened, not just flash a number on the screen. Support is definitely above average. You pay for the call, but you get answers, and the staff is friendly and well informed.

The Bottom Line. Both *Wingz* and *Excel* are excellent programs. While I have a preference for *Full Impact* or *Wingz* in general-purpose use, I cannot abandon *Excel*: I like its file-linking capabilities to funnel data into summary reports. If you have to limit yourself to one product, you must choose the program whose strengths best match your needs.

For heavy spreadsheet users who occasionally use graphics, *Excel* remains the product of choice. With expanded memory utilization, display capabilities, state-of-the-art file linking, and smooth, fast operation, *Excel* is a number cruncher par excellence—the most important criterion for judging a spreadsheet, for most people.

If your concern is preparing reports that contain significant amounts of text and graphics to illustrate a moderate amount of numerical analysis, my recommendation is *Full Impact*. It is much more convenient than *Excel* in conjunction with a word-pro-

cessing or page-layout program, easier to use than *Wingz* for creating basic charts and graphics, and offers precise control over sizing and placement. However, whereas *Full Impact* can use a hard-disk drive as virtual memory to build almost unlimited worksheets, its file-linking capabilities are the weakest of the three. Finally, if you need sophisticated 3-D charting, the most flexible graphics handling, or the best macro system for building custom applications, then *Wingz* should be your choice.

—CHARLES H. GAJEWAY

WordStar Reborn!

WordStar

VERSION REVIEWED: 5.5

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); 5.25- or 3.5-inch

PUBLISHER: WordStar International Corp., P.O. Box 7079, San Rafael, CA 94903; (415) 499-1200

PRICE: \$495

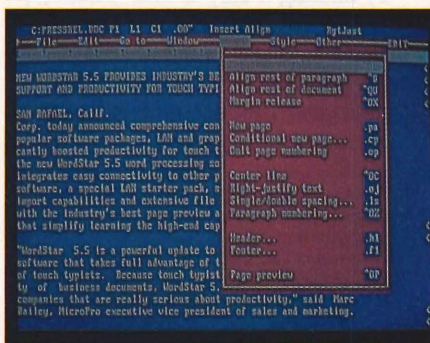
OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★



The new version of WordStar caters to both word-processing neophytes and serious touch-typists.

The first version of *WordStar* had the reputation of being a word processor for serious touch-typists. *WordStar* 5.5, the latest version, is much more. The original commands that let you keep your fingers on the keyboard at all times are still there, but are now supplemented with pull-down menus, function keys, and macro commands for those who don't want to bother memorizing them. Although *WordStar* 5.0 (released August 1988) brought this classic word processor into close competition with other powerhouses such as *WordPerfect*, version 5.5 heats up the contest even more. The program now features dialog boxes, a telecommunications program, an outliner, and a

data exchange utility that makes files compatible with *WordPerfect*, *Microsoft Word*, *MultiMate*, *DisplayWrite*, and *WordStar 2000*.

WordStar 5.0 contained some minor but annoying bugs, including one that made the computer freeze mysteriously when I filled the type-ahead buffer with editing commands. The user's guide, too, seemed to have been rushed to the printer with a number of inadequately documented features. With version 5.5, *WordStar*'s programmers have eliminated these problems, in addition to improving many other features. For example, while newspaper-style columns were possible with version 5.0, they were difficult to implement. Now I simply select the number of columns and the space between them from a menu, and *WordStar* calculates the rest.

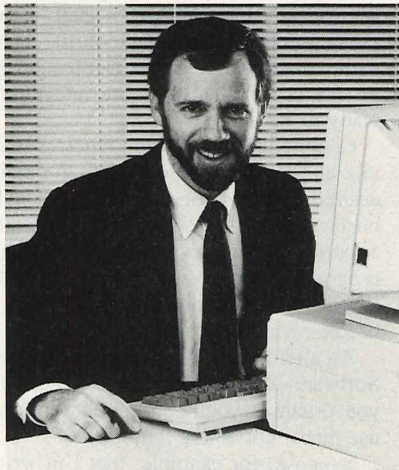
Version 5.5, while feature-laden, is not intimidating. Whizzing to different points in a document is a breeze, with commands that send the cursor speeding to a specific page number or to as many as 10 markers I place anywhere in a file. Text and command entry are made easier by two-key shorthand commands, which instantly enter the date, time, or frequently used text. Block editing commands not only cover simple editing (complete with Undo for mistakes), but can also sort text, add numbers, change case, and provide a word count. The spelling checker is better than many. It offers suggestions for corrections and recognizes obscure typing errors, even when the first letter is incorrect. There is also a thesaurus (Microlytics' *WordFinder*), complete with definitions and cross-referencing.

TelMerge, the *WordStar* communications module, is also a real bonus. Its 12-item directory comes partially programmed to log onto CompuServe, MCI Mail, and other major network services. TelMerge automatically creates a log file to capture every online session, so I don't accidentally lose important information. It can upload and download ASCII or XModem files and send data to my printer. I can load TelMerge from the *WordStar* main menu, send a file, and return to the editing module in a jiffy.

MailList, while not as powerful as my regular database, is as good as many stand-alone mailer programs. It works like an electronic card file, with numbered records of 21 fields each. I can store names and addresses to produce form letters using the print merge command. I can sort records by field (up to nine fields at a time), find records by number, or match data I enter to temporarily filter out unnecessary records. There's also a form for inventory management.

The graphics tool, *Inset*, from Inset Systems, hides in memory and pops up to help capture screen images from almost any other

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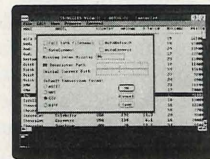
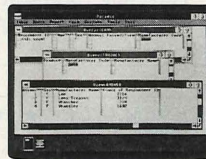
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program. I can edit these images and save them to paste into a *WordStar* document for use in presentations or desktop publishing. Image-editing capabilities include deleting unwanted portions of the image and flipping or rotating an image. Text wraps around the picture if I manually set the margins correctly. I can preview the document with *WordStar*'s Advanced Page Preview command.

WordStar's outliner is *PC Outline*, sublicensed from Brown Bag Software. It can be run as a separate program or left in memory to pop up while I'm doing something else. I rarely leave it loaded because *WordStar* is memory hungry: It uses some 380K of memory if the spelling checker is loaded, and I can't open a second window if *PC Outline* is in memory. Unfortunately, *PC Outline* makes me work in standard outline format, complete with numbers and letters, instead of letting me simply type in text and add the format later. I can still rearrange elements and zoom in on small portions of the outline, but the lack of features, such as a sorting capability available in other outliners, makes *PC Outline* less valuable to me than the other *WordStar* add-ons.

Finally, there's Star Exchange, the file-translation utility. This handy tool makes an effort to preserve codes, such as those for margins and printer fonts, when you translate a file to a different format. Not everything comes through in good order—graphics and fonts not supported by *WordStar* are obvious examples—but such formatting as centering, line spacing, and headers and footers generally translate without a hitch.

Instructions for all of these programs are included in a single fat manual, which is over 650 pages in length. It's still a little difficult to sort through all of this when an emergency situation arises. The getting-started walk-throughs are helpful, but a greater number of examples would have made the reference sections more effective. Also, whether you're new to *WordStar* or an old hand, you shouldn't miss the new disk-based tutorial.

WordStar International offers free technical support at a toll-free number, but the lines are often busy for seemingly hours, no, days at a time. I can vouch for the efficiency of the people who work there, though. When I needed help learning to use *Inset* with my printer, I called tech support. As usual, it took time to get through, but when I succeeded, the personnel were very helpful. I've encountered no problems with this version of *WordStar*'s error handling, either. *WordStar* automatically makes backup files and makes me stop to verify that I really want to delete files or leave a file without saving changes. There's also a Protect mode that saves important files from accidental deletion or editing.

There are plenty of reasons these days to

consider buying *WordStar*. One of them is that its keyboard commands have been adopted as a kind of standard by many other software companies. If you know *WordStar*, you can often use other programs with ease. These same commands once gave *WordStar* a reputation for being difficult to learn. Now, drop-down menus, dialog boxes, and the ability to customize almost every aspect of *WordStar* have mitigated that complaint. Lastly, with all those worthwhile add-ons thrown in, it's fair to say that *WordStar* should now be considered one of the top three or four heavy-duty word processors available for IBM compatibles.

—TAN A. SUMMERS

Organize Files by Function

ViewLink

VERSION REVIEWED: 1.0C

SYSTEM REQUIREMENTS: 384K IBM PC or PS/2; two drives (hard-disk drive recommended); DOS 2.11 or higher; 5.25- and 3.5-inch

PUBLISHER: Traveling Software, 18702 North Creek Pkwy., Bothell, WA 98011; (206) 483-8088

PRICE: \$150

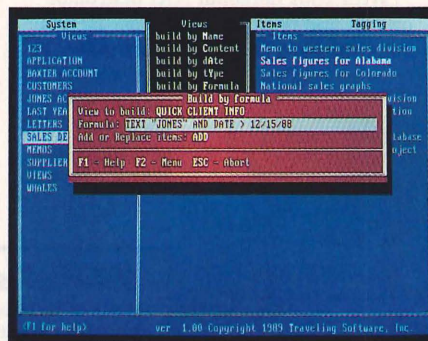
OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★



ViewLink, from Traveling Software, organizes your hard-disk drive in a convenient, task-oriented manner.

If you're like most people, you store similar files together on the same floppy disk or in the same hard-disk drive subdirectory. You probably have one disk or subdirectory dedicated to a spreadsheet, one for your word processor, your database files someplace

else, and . . . well, you get the picture. This method of organization is analogous to hanging all your blazers on one side of the closet, pants in the middle, and shirts on the other side. While this arrangement definitely works, some people (myself included) prefer another philosophy of file management, where whole outfits can hang together in such a way that they are integrated and ready to wear.

Completing a task often requires that you mix and match diverse objects to obtain the desired results. For example, producing a business plan might involve files created by a word processor, a spreadsheet, a graphics program, and several other applications. Having to track down these various files needlessly complicates the task.

An alternative? *ViewLink*, from Traveling Software. This program is designed to help you organize your files based on how you use them, not where they reside.

Suppose, for example, that I'm writing a book on *Desqview*—as, indeed, I am. This book includes *WordStar* text files, captured screens, graphics files, and on-line research notes downloaded with *ProComm Plus*, among other items, all of which I plan to merge, format, and print using *Ventura Publisher*. Before installing *ViewLink*, I wasted a lot of time tracking down these different files and switching among the various applications required to access them. After installing *ViewLink*, I simply told the program to find every file on my hard-disk drive that had "DESQ" included in its filename (I was, after all, somewhat organized) and gather them together into a single *view*, the program's name for a group of related files. Within 20 seconds or so, *ViewLink* scanned my hard-disk drive and created a *view*, which I called DQ Book, containing over 50 different files. If you're not that organized, *ViewLink* can accomplish the same thing (albeit more slowly) by scanning the actual contents of your files for a specified word or phrase, rather than simply checking a file's name.

On the most basic level, *ViewLink* helped me organize my project logically. I could now see at a glance the names of all the files comprising my *Desqview* book, rather than having to track them down manually using standard DOS functions. Beyond this, however, *ViewLink* also includes several functions to simplify working within its *views*.

For example, if *ViewLink* can determine the format of a data file, it links that file with the application program used to create it. If I highlight the file DESQONE.WS in my DQ Book book *view* and press enter, *ViewLink* will load *WordStar* and then automatically open Chapter One of my *Desqview* book for editing. *ViewLink* recognizes files created by over 70 popular programs, including Lotus 1-2-3, *WordPerfect*, Micro-

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Philadelphia Inquirer

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soft *Word*, *Harvard Graphics*, *Symphony*, *Agenda*, *Q&A*, *ProComm Plus*, *WordStar*, *XyWrite*, and *Freelance Plus*, to name a few. Unfortunately, there's no way to teach *ViewLink* about programs it doesn't already know. This simply means that you'll need to load an unrecognized program manually, rather than depending on *ViewLink* to do it automatically when you call up a data file (you can write a macro to shorten the process).

Items in a view can also be directly linked to one another. This allows you to further organize subgroupings of related files within a larger view. I established several of these links between files in my DQ Book view. For example, by linking all the *WordStar* and graphics files comprising Chapter One of my book, I can quickly move from one file to the next—editing text, modifying screen shots, and the like—without first having to return to DOS or *ViewLink*.

While impressive, *ViewLink* does have some operational idiosyncrasies that reflect its youth rather than its potential. If you attempt using Alt-R to automatically load a file created by an application program *ViewLink* doesn't recognize, the program keeps repeating an error message. I had to reboot to break out of this cycle. Luckily, since no file was open, no data was lost. The experience was unnerving, but this is just the type of bug you often find in the first release of a complex program like *ViewLink*.

The *ViewLink* documentation, though well organized and adequately illustrated, suffers from a severe case of technobabble. The individual files comprising a view, for example, are referred to as *items*, while the disks and subdirectories you allow *ViewLink* access to are called *domains*. After using the program awhile, the language actually makes sense; to the *ViewLink* neophyte, however, the program's dependence on proprietary language is unnecessarily confusing.

Free technical support is available to all registered owners of *ViewLink* weekdays from 8 a.m. to 5 p.m., pacific time, provided you're willing to pay for the phone call. If all support personnel are busy, the company will call you back at its expense. I called to ask about the system lockup I mentioned earlier. The support person said the company was aware of this problem and would fix it in a future upgrade. A second call about linking files within a view was answered quickly and courteously.

In summary, *ViewLink* is a promising program. It organizes all those miscellaneous files cluttering up many hard-disk drives to better match most people's work habits. If subsequent versions fix some of *ViewLink*'s isolated bugs, Traveling Software could have a real winner on its hands.

—JACK NIMERSHEIM

Manage Your Files With Menus

PowerMenu

VERSION REVIEWED: 4.11

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; one drive (hard-disk drive recommended); 5.25- or 3.5-inch

PUBLISHER: Brown Bag Software, 2155 S. Bascom Ave., Ste. 114, Campbell, CA 95008; (408) 559-4545

PRICE: \$90

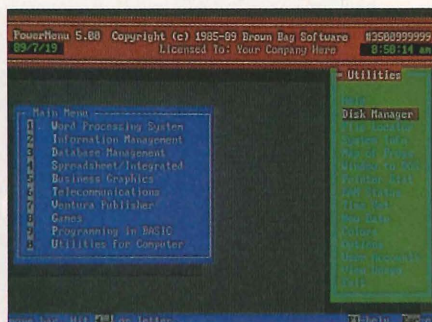
OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★ ★ ★



PowerMenu, from Brown Bag Software, makes your computing life a whole lot easier.

File management used to be as simple as copying commonly used programs from one floppy disk to another. But now, as we enter the nineties, it's not so simple. Since one hard-disk drive may contain hundreds of programs and files, managing a personal computer can be a real headache . . . or as easy as pie.

For me, *PowerMenu*, a DOS-shell program from Brown Bag Software, makes owning a computer and a hard-disk drive a truly enjoyable experience. It has taken away the user-unfriendliness of DOS and replaced it with an intuitive graphic interface.

The *PowerMenu* idea is to allow you to easily organize and manage everything you've stored on your disks. By giving you a menu system, a disk manager, a system manager, and a security system to work with, *PowerMenu* covers all the necessary bases to achieve that ideal.

Installing *PowerMenu* on my hard-disk drive was a breeze. When I ran the installation program, *PowerMenu* looked through my hard-disk drive, found several of my programs, and automatically set them up in a colorful menu system. With *PowerMenu*, you can run up to 10,000 programs from

pop-up menus. Each menu contains up to 10 choices and each choice can lead to 10 more choices, down to four layers of submenu.

After the installation program finished setting up the programs it recognized, I added the remaining programs to the main menu and submenus—an easy process. I also password-protected certain programs, such as my *Last Will and Testament*. By altering my AUTOEXEC.BAT file, I commanded my main menu to appear automatically on-screen each time I turn on my computer.

Aside from the great menus, *PowerMenu* also features very powerful disk and system managers. The disk manager displays a tree-diagram of your hard-disk drive, showing all the directories branching out into their respective subdirectories. This makes it easy to get an overview of where things are when you're ready to do file maintenance. On the right side of the disk-manager screen is a menu of options to let you find, browse, edit, copy, move, erase, sort, protect, hide, and show files. Using the system manager, you can check RAM and printer status, check your system configuration, set the time and date, change menu colors, quickly jump to DOS, and more. All in all, *PowerMenu*'s disk- and system-management features give me just about everything I need.

The *PowerMenu* 59-page user's manual includes a table of contents, a glossary, and an index, making it easy for me to find and understand information about the program. It helps if you understand DOS before using *PowerMenu*, but if you don't, the manual recommends several books to help you get started. When I had questions about *PowerMenu*, I usually found good answers from the on-screen help. I did get a little confused when I tried to run a memory-resident program from *PowerMenu* and experienced a system error. Upon consulting the manual, I learned that memory-resident programs can cause some unpredictable problems when run from *PowerMenu*, but generally work fine when loaded first.

PowerMenu is a fairly easy program to use and gave me few unexplained problems. I called the support line (free for one year) when my printer wouldn't print files through *PowerMenu*. Although I had to pay for the long-distance call, it was answered after two rings, and I was quickly transferred to a friendly technical-support person. He diagnosed my problem correctly, and I was off the phone in less than five minutes.

If you want to organize your computer system so that you can see all your programs in a single glance, *PowerMenu* is a great purchase—it is especially designed for people who need to transfer from application to application quickly. If your business involves such activities, this program will save you time and energy. —JOEY LATIMER

These best-seller lists, prepared exclusively for HOME-OFFICE COMPUTING by Egghead Discount Software, are based on December sales at 206 Egghead stores in the United States and Canada.

I
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BUSINESS

1. WordPerfect v5.0
WordPerfect Corp.
2. Lotus 1-2-3
Lotus Development Corp.
3. PFS: First Publisher Holidays Package
Software Publishing Corp.
4. Word v5.0
Microsoft Corp.
5. Works v1.05
Microsoft Corp.
6. Windows/286 v2.1
Microsoft Corp.
7. Grammatik IV
Reference Software
8. SpinRite
Gibson Research
9. Professor DOS w/SmartGuide for DOS
Individual Software, Inc.
10. RightWriter v3.1
RightSoft, Inc.

HOME/SMALL BUSINESS

1. Quicken v3.0
Intuit, Inc.
2. The New Print Shop
Broderbund Software
3. PC USA
PC Globe, Inc.
4. BannerMania
Broderbund Software
5. TurboTax 1990 v7.0
Chipsoft
6. PC Globe v3.0
PC Globe, Inc.
7. Calendar Creator Plus
Power Up! Software
8. Family Tree Maker
Banner Blue Software
9. Will Maker v3.0
Nolo Press
10. Managing Your Money v5.0
MECA

EDUCATION

1. Where in Time Is Carmen Sandiego?
Broderbund Software
2. Mavis Beacon Teaches Typing
The Software Toolworks/EA
3. Learning DOS v2.0
Microsoft Corp.
4. Math Blaster Plus
Davidson & Associates
5. Reader Rabbit
The Learning Company
6. Where in the USA
Broderbund Software
7. Children's Writing & Publishing Center
The Learning Company
8. Where in the World
Broderbund Software
9. Think Quick!
The Learning Company
10. Math Rabbit
The Learning Company

ENTERTAINMENT

1. Flight Simulator v4.0
Microsoft Corp.
2. SimCity
Maxis Software/Broderbund
3. Their Finest Hour: The Battle of Britain
LucasFilm/EA
4. M1 Tank Platoon
MicroProse
5. John Madden Football
Electronic Arts
6. Mean Streets
Access Software Inc.
7. Hero's Quest
Sierra On-Line
8. Lakers vs. Celtics
Electronic Arts
9. Leisure Suit Larry III
Sierra On-Line
10. Tetris
Spectrum HoloByte

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BUSINESS

1. Word v4.0
Microsoft Corp.
2. MyAdvancedMailList
MYSoftware Company
3. PageMaker v3.0
Aldus Corp.
4. Excel v2.2
Microsoft Corp.
5. Works v2.0
Microsoft Corp.
6. atOnce! v1.0
Layered, Inc.
7. Simply Accounting v1.03
Computer Associates
8. WriteNow v2.0
T/Maker Company
9. SuperCard
Silicon Beach Software
10. MacWrite II
Claris Corp.

HOME/SMALL BUSINESS

1. Quicken v1.5
Intuit, Inc.
2. Adobe Type Manager Plus
Adobe Systems Inc.
3. The Print Shop
Broderbund Software
4. Calendar Creator v1.0
Power Up! Software
5. Managing Your Money
MECA
6. Will Maker v3.0
Nolo Press
7. Wet Paint Vol. 1 & 2
Double-Click Software
8. PosterMaker Plus
Broderbund Software
9. World Class Fonts
Double-Click Software
10. Synchronicity
Visionary Software/Macamerica

EDUCATION

1. Mavis Beacon Teaches Typing
The Software Toolworks/EA
2. Manhole
Mediagenic
3. Where in the USA Is Carmen Sandiego?
Broderbund Software
4. Where in the World Is Carmen Sandiego?
Broderbund Software
5. Talking Reader Rabbit
The Learning Company
6. Number Maze
Great Wave Software
7. Math Blaster
Davidson & Associates
8. Math Rabbit
The Learning Company
9. Typing Instructor Encore
Individual Software, Inc.
10. Stepping Stones
Compu-Teach, Inc.

ENTERTAINMENT

1. SimCity
Maxis Software/Broderbund
2. Falcon v2.0
Spectrum HoloByte
3. Advanced Dungeons & Dragons: Pool of Radiance
Strategic Simulations/EA
4. Star Wars
Broderbund Software
5. Tetris
Spectrum HoloByte
6. Crazy Cars
Titus Software Corp.
7. Grand Prix Circuit
Accolade
8. Sargon IV
Spinnaker Software
9. Life & Death
The Software Toolworks/EA
10. Crystal Quest v2.2
Casady & Greene, Inc.

A
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BUSINESS

1. AppleWorks v3.0
Claris Corp.
2. Publish-It! v2.0
Timeworks, Inc.
3. AppleWorks GS
Claris Corp.
4. WordPerfect v2.1
WordPerfect Corp.
5. WordPerfect v1.1
WordPerfect Corp.
6. Graph-It!
Timeworks, Inc.
7. Wordbench
Addison-Wesley Publishing
8. List & Mail
Avery
9. Notes 'n' Files
DataPak Corp.
10. GEOPublish
Berkeley Softworks

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Broderbund Software
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Broderbund Software
4. Quicken
Intuit, Inc.
5. MyMailList
MYSoftware Company
6. Print Magic
Epyx, Inc.
7. DeluxeWrite
Electronic Arts
8. Family Matters
Springboard Software
9. MyLabelMaker
MYSoftware Company
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EDUCATION

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Broderbund Software
6. Think Quick!
The Learning Company
7. Reader Rabbit
The Learning Company
8. Magic Spells
The Learning Company
9. Math Rabbit
The Learning Company
10. Math Blaster Mystery
Davidson & Associates

ENTERTAINMENT

1. Arcade Mega-Hits Vol. 1
Mindscape
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Accolade
3. The Last Ninja
Mediagenic
4. Arkanoid II: The Revenge of Doh
Taito Software
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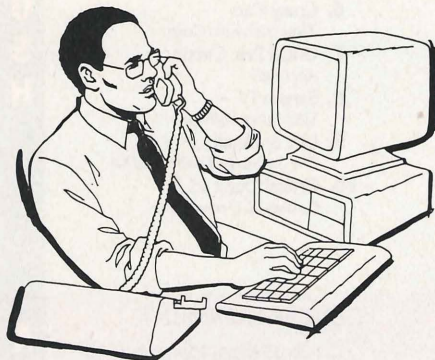
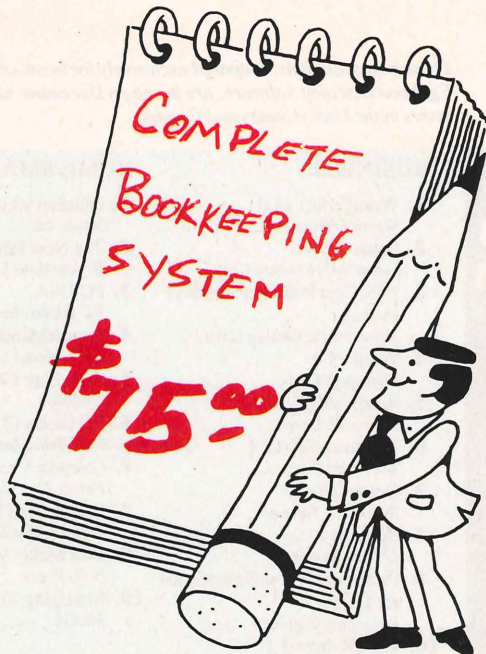
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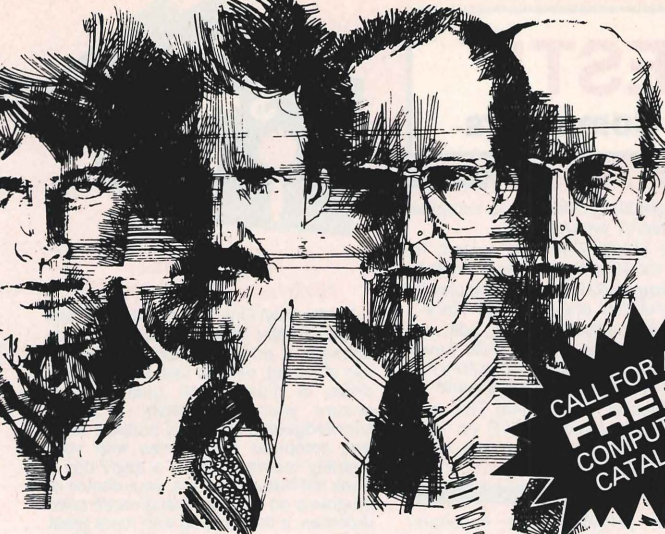


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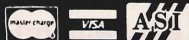
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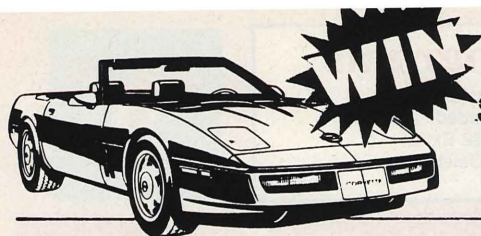


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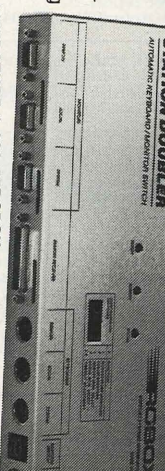
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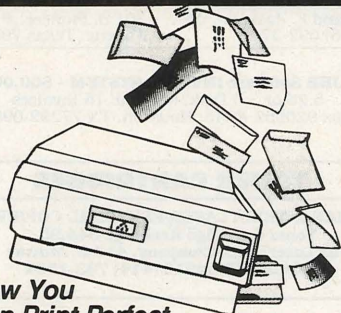
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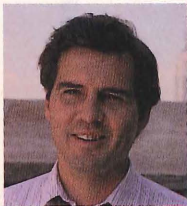
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Home-Office Supermarkets

BY NICK SULLIVAN



The first time I ran out of fax paper, I called the toll-free number in the fax machine user's guide to request the name of a supplier near me. I got a phone number that turned out to be a women's clothing store. So I hopped in my car and went to the nearest discount department store. There I found reasonably priced fax paper and bought four rolls. I rushed home and opened up my fax—but the paper roll didn't come close to fitting. I had mistakenly assumed that all fax paper was more or less the same, just as all printer paper is more or less the same.

That was not the first time I ran out of supplies, and it won't be the last. Nor was it the only time I bought something that didn't fit. The gentle art of procurement was not one I'd mastered when working in an office. Everything from paper to paper clips was readily available in a supply closet down the hall. But, to provide for my voracious office, I'm getting better at shopping for items with number-and-letter names and even learning to like it.

I got out of that first mess by calling the magazine and requesting an air shipment of fax paper—a care package for a colleague. The next time I ran out of fax paper at a particularly bad time. The fact that I ran out at all, of course, indicates that I had not learned the first rule of procurement: Buy in advance and buy in bulk! It was 4:00 in the afternoon and I was expecting a deluge of faxes the next morning. It would be too embarrassing to call the office again.

I drove to a real office-supply store and said, "I need fax paper for a Hitachi HI-FAX 17." I even brought the manual, in case more information was needed. The clerk got out a book the size of the *Oxford English Dictionary* and extracted a string of numbers and letters from it. She headed into the supply room and emerged a minute later. "We don't have any," she said. "We



I enter, take a cart, and saunter down the aisles of office paraphernalia and equipment like a child in a candy store.

can order it and get it by tomorrow afternoon." No fax paper? Am I in *Tierra del Fuego*? I wondered.

Of course they had fax paper. A whole storeroom full of it. The clerk listed a few other types she thought would fit the Hitachi. I was welcome to wander around and take a look, but the store was closing in 15 minutes. I searched shelves and shelves of paper. Nothing for the Hitachi. Paper, paper everywhere, and not a sheet to fax. . . . I walked back out into the main office where everyone was preparing to close up shop—except for one young woman. She had her nose in the "faxtionary." After a few minutes of note taking and cross-referring she found that Sharp FO-60PR paper matched a kind that matched a kind that worked in the Hitachi. I went back into the storeroom and picked up a case.

When you buy a razor, you know they're going to get you on the blades. I learned that not long after I read *Babar* for the first time. But when I got a fax machine I didn't realize they were going to get me on the paper.

And once I realized it, I didn't think it would be hard to find the paper. These fax people should study the razor-blade business.

But I'm adaptable. If they insist on making a game out of it, I'll play. I have an account at the office-supply store. I am a member—get that, I joined a club to buy fax paper—of Staples, one of the new office "superstores." And, having found that Hitachi is not a household name in office stores, I keep fax-paper wrappings everywhere, in case I need the number-and-letter name in an emergency.

Staples is a blast. Unlike my old-fashioned office-supply store, which appears to have stock left over from the Raymond Chandler era (typewriters and carbon paper?), Staples has the absolute latest in telephone gear and computer add-ons. And, unlike my office-supply store, which plays cat and mouse with its potential customers, Staples encourages wild spending.

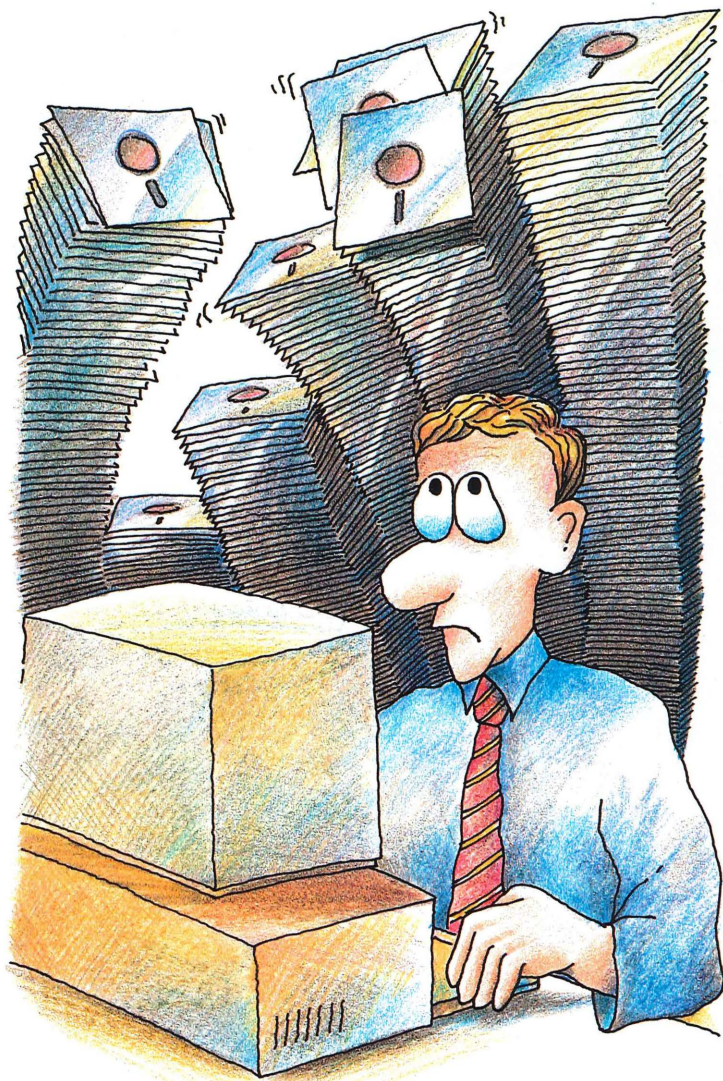
I enter, take a supermarket cart, and saunter down the aisles of office paraphernalia, gewgaws, and equipment like a child in a candy store. Last time I went there to buy a cork bulletin board and almost walked out with a new answering machine and telephone headset. Somehow I limited myself to mundane items—file folders, packing tape, pen refills (of course my refill was the wrong size), a backup supply of fax paper, and a new wastebasket for filing the junk faxes I receive.

Staples is a dangerous place because the store has all kinds of "specials" going, and they send me into a bargain-hunting frenzy. Only members can take advantage of discounts, which is why I joined. And if I really want to go hog-wild, I pass under the lintel that leads into an Egghead software store. It's only my innate New England frugality that keeps me out of debtors' prison.

Staples and other new office superstores springing up around the country, and specialized catalogs such as *Reliable Home Office* and Crutchfield's *Personal Office*, are obviously designed for novice procurement officers who run computer-based home offices. They lend color, novelty, and a sense of exploration to what is by nature a tedious task. After all, who wants to buy paper?

(Answer: the person who has none.) ■

NICK SULLIVAN, a senior editor of the magazine, telecommutes from Massachusetts to the New York office. He can be reached via the magazine, and through MCI Mail (NSULLIVAN) and CompuServe (ID:76703,744).



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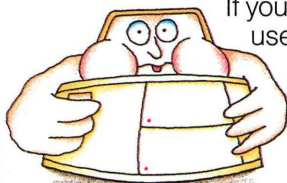
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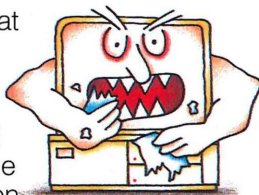
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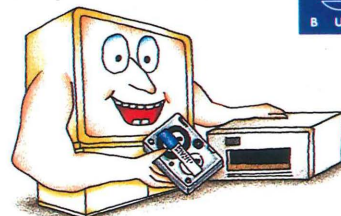
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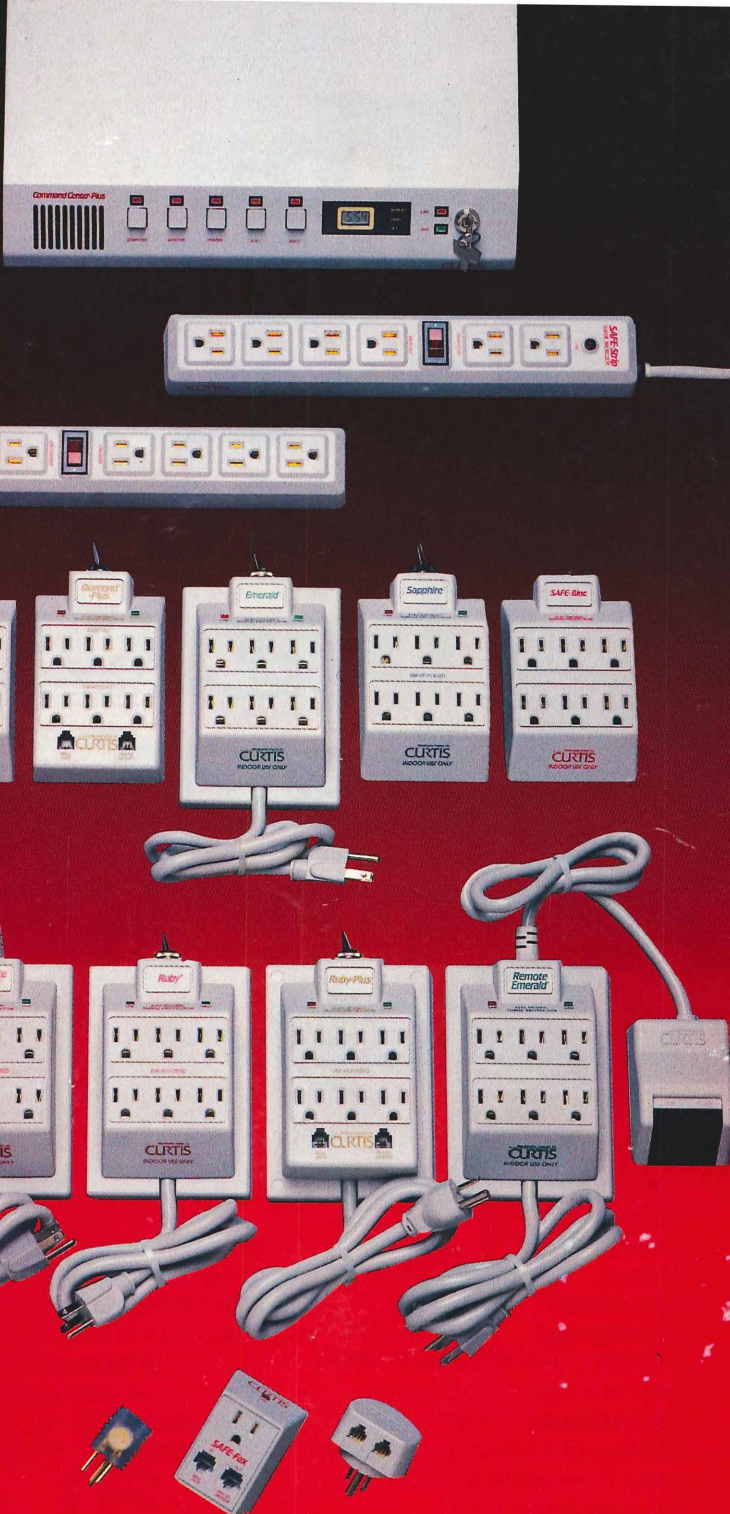
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